

# **1996 CENSUS FORM DESIGN TESTING PROGRAM**

**Census Working Paper  
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POPULATION CENSUS DEVELOPMENT

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## INTRODUCTION

This report outlines the form design testing program undertaken for the 1996 Census and consolidates the earlier reports submitted after every testing. It reviews the objectives of the program, describes the form design testing of each topic or issue examined and provides recommendations to be considered for the next census in 2001.

The objectives of this report are to provide readers with a better understanding of the way the 1996 Census form design was developed and to document the 1996 Census testing program for future uses. Further, the suggestions made for future improvements may be helpful for the next census cycle of form design tests.

The testing program was aimed to maximise the accuracy of responses for the 1996 Census questions. The assessment of the performance of the questions was generally based on:

- comparing the performance of differently worded questions;
- assessing the merit of general instructions to assist respondents;
- comparing the performance of various sequencing instructions;
- using follow-up interviews to determine the consistency of responses given during testing; and
- comparing the performance of write-in and self-coded designs for the same topic.

For the first time, as part of the Census testing program, cognitive studies (eg. observation studies and focus groups) were conducted, for selected topics. These studies gives valuable first hand insight into respondent understanding which helps in the question design. Moreover, it helped in assessing the level of reliability of data, for further clarification of the results and also for further analysis of the questionnaire design.

It should be noted that due to the voluntary nature of census tests, the non-response rate is generally higher in the tests than in the actual census.

For each of the following tests, two forms were used. These forms were handed out to alternate houses in the testing areas. The form which had the experimental questions was tested against the control form, which was generally similar to the 1991 Census form. Wherever possible the 1991 Census results were used as a bench mark.

### 1996 Testing Program

The 1996 Census testing program was undertaken to develop the most suitable form designs, field and processing procedures possible for the 1996 Census. Seven field tests and a dress rehearsal were conducted. Further details on the whole program are given in Appendix 1.

#### *July 1992*

This test was conducted on Tuesday, 21 July 1992 in Brisbane. 4,974 dwellings were enumerated. The test was primarily aimed to assess respondent oriented aspects of the viability of Optical Character Recognition (OCR) as the processing system for the 1996 Census. OMR (Optical Mark Recognition) and OCR forms were used for this test. The OMR form was the same as that used for the 1991 Census with only minor changes. The OCR form was a five-person household form in landscape format similar to the OMR form in content and question order, but with a different format for many of the questions. A Personal OCR form was also used for this test. For a number of reasons, including a lower degree of apparent respondent acceptance it was decided that the 1996 Census and future test forms would continue to use OMR.

#### *March 1993*

The second test was held in Adelaide on Tuesday, 30 March 1993. 983 dwellings were enumerated. Two forms (Form 1 and Form 2) were used to test alternative approaches.

Form 1, the control form, was the same as that used for the 1991 Census with some minor changes, and Form 2 included the experimental question designs. No Personal Forms were used in the test.

#### *August 1993*

The third test was held in Melbourne on Tuesday, 24 August 1993. 1,816 dwellings were enumerated. Two forms (Forms 3 and 4) were used to test alternative approaches. Form 3 was the same as that used for the 1991 Census with slight changes, and Form 4 included the new question formats being tested.

### *November 1993*

This test was held in Melbourne and 1,644 households were enumerated. After the release of '1996 Census of Population and Housing: ABS Views on Content and Procedures' in February 1993, the ABS received 48 submissions disagreeing with its recommendation to exclude a disability topic from the 1996 Census. After further discussions on census content, the ABS agreed to test a question on disability, and measured the quality of the data obtained by comparing it with information gathered by personal interview. Form 5 was used to test the two questions on disability.

### *March 1994*

The fifth test was conducted on 22 March 1994. Approximately 1,250 dwellings were enumerated in the Newcastle area. Forms 6 and 7 were used to test alternative approaches. Form 6, the control form, was similar to the 1991 Census form. Form 7 was the experimental form which incorporated the design and question wording changes being tested. A Personal Form, Form 8, was also used in the test and question designs were conceptually similar to Form 7.

### *August 1994*

The Major Test for the 1996 Census was held in Perth on Tuesday, 23 August 1994 and 11,732 dwellings were enumerated. Forms 9 and 10 were used in this test. Form 9 was similar to that used for the 1991 Census with some changes. Form 10 included alternative question design. Household and Personal forms, for both form types were used. A Summary Form for Non-private Dwellings was also tested.

### *March 1995*

Interview forms, known as Special Indigenous Forms, used to enumerate indigenous people in remote areas, were tested in late March 1995, in the Aboriginal community of Yarrabah in North Queensland. It was a small test which mainly utilised observation studies, for qualitative analysis of the forms. Three draft form types were used in the skirmish: the Community List, Special Indigenous Household Form and Special Indigenous Personal Form.

*August 1995*

The Dress Rehearsal for the 1996 Census was held in parts of Sydney, Bathurst and some areas in the Northern Territory on Tuesday, 8 August 1995. Only the Special Indigenous Forms were tested for form design since the 1996 mainstream forms were finalised by this stage. Field collection and data processing procedures were tested for all forms. Accordingly, there is no form design report for the Dress Rehearsal.

It should be noted that some tables have been randomly adjusted to meet ABS confidentiality policy.

# 1. AGE

## 1991 Census Question

### 4 Mark each person's age last birthday.

- If age is less than one year, mark box (0).
- Mark one box for each person. For example,  
for a person aged 31 years:

#### Example

Years:  
 (0) (10) (20) (30) (40) (50) (60) (70) (80)  
 (1) (11) (21) (31) (41) (51) (61) (71) (81)  
 (2) (12) (22) (32) (42) (52) (62) (72) (82)  
 (3) (13) (23) (33) (43) (53) (63) (73) (83)  
 (4) (14) (24) (34) (44) (54) (64) (74) (84)  
 (6) (16) (26) (36) (46) (56) (66) (76) (86)  
 (7) (17) (27) (37) (47) (57) (67) (77) (87)  
 (8) (18) (28) (38) (48) (58) (68) (78) (88)  
 (9) (19) (29) (39) (49) (59) (69) (79) (89)  
 ( ) 90 years or more

Years:  
 (0) (10) (20) (30) (40) (50) (60) (70) (80)  
 (1) (11) (21) (31) (41) (51) (61) (71) (81)  
 (2) (12) (22) (32) (42) (52) (62) (72) (82)  
 (3) (13) (23) (33) (43) (53) (63) (73) (83)  
 (4) (14) (24) (34) (44) (54) (64) (74) (84)  
 (6) (16) (26) (36) (46) (56) (66) (76) (86)  
 (7) (17) (27) (37) (47) (57) (67) (77) (87)  
 (8) (18) (28) (38) (48) (58) (68) (78) (88)  
 (9) (19) (29) (39) (49) (59) (69) (79) (89)  
 ( ) 90 years or more -  
 please specify

years

## 1.1 Background

The introduction of respondent-marked OMR boxes in the 1991 Census led to the use of the Lotto style column grid (numbers going down) used for the age question. Due to space restrictions a column style grid was used in 1991 instead of a row grid where numbers go from left to right. In cognitive testing for the 1996 Census cycle, many respondents indicated that they felt the numbers in the grid should be in rows going from left to right, rather than in columns which were used in the 1991 Census. This format was trialed in two tests in 1994.

Further, the age grid was expanded to include up to 98 years, with a write-in response box for '99 years or more'. This was tested in the August 1994 test in order to expand the ages captured by OMR rather than using the more expensive clerical coding.

## 1.2 Test Results

### 1.2.1 Column vs Row Age Grid

#### March 1994

In the March 1994 test, the question on Form 6 was the same as the 1991 Census question and Form 7 had the numbers in rows. The performance of the age grid was assessed in terms of errors. Errors which were found included:

- non-response;
- circling the number;
- ticking the number;
- underlining the number;
- age less than 90 written in the 90+ specify box;
- crossing the number;
- marking outside the age grid, and
- marking the example grid.

This test revealed almost identical error rates for the two forms, at 6.6% for Form 6 and 6.5% for Form 7. It should be noted that where an error occurred an age was imputed (ie. randomly given an age based on distributions from the 1991 Census).

Telephone follow-up revealed that 97% of respondents completed Form 7 correctly. The respondents who incorrectly completed their forms were elderly people who misreported their ages by one year. The March 1994 test recorded a non-response rate of 0.3% for both forms.

Testing in March 1994 indicated that the grid numbers in rows from left to right did not adversely affect the age question. The difference in error rates (ie. the incorrect marking of the grid) between the row and column style grids was extremely small.

*August 1994*

In August 1994 these two types of formatting for the age grid were retested. The age grid on Form 9 was similar to that used in Form 6, and Form 10 had the numbers in rows with the expanded age grid (from 89 to 99 years) response boxes. The effect of the expanded age grid on response distribution also was assessed, particularly among the older respondents.

In this test, imputation codes allowed differentiation between genuine non response to the age question and instances where a not stated code was assigned in Computer Assisted Coding.

Table 1.1 shows the distribution of stated, genuine (ie. not imputed) and imputed non-responses to age.

**TABLE 1.1: RESPONSE DISTRIBUTION FOR AGE BY FORM TYPE, AUGUST 1994 TEST**

<i>Type of response</i>	<i>Form 9</i>		<i>Form 10</i>	
	<i>Number</i>	<i>Percent</i>	<i>Number</i>	<i>Percent</i>
Stated response	12,505	99.1	12,110	99.0
Genuine non response	102	0.8	120	1.0
Imputed non response	11	0.1	8	0.1
<b>Total</b>	<b>12,618</b>	<b>100.0</b>	<b>12,238</b>	<b>100.0</b>

Counts of multiple marking errors for each form type, and the rate of these errors as a proportion of all OMR captured responses for age are shown in Table 1.2 below.

**TABLE 1.2: MULTIPLE MARKS FOR AGE BY FORM TYPE, AUGUST 1994 TEST<sup>(a)</sup>**

	<i>Form 9</i>		<i>Form 10</i>		<i>Difference (F10-F9)</i>	
	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>
Multiple marks	66	0.5	93	0.7	27	0.2
<b>Total OMR Responses</b>	<b>12,743</b>	<b>100.0</b>	<b>12,484</b>	<b>100.0</b>	<b>259</b>	<b>0.0</b>

(a) This data is from the text file before any edits or 'cleaning up' of the data has occurred.

As shown in Table 1.1 and 1.2, genuine non-response rates and the incidence of multiple marking errors (as a proportion of all OMR captured responses for Age) were marginally higher on Form 10, however the differences were negligible. Furthermore, there was no noticeable digit preference effect for the ages at the top of each column on Form 9, and the first number of each row on Form 10.

### *1.2.2 Expansion Of Age Grid*

In the August 1994 test, analysis was also performed to ascertain whether the addition of response boxes for 90-98 years causes older people to answer differently than younger respondents. Age distributions (after imputation) on Form 10 were compared with those from Form 9 and the 1991 Census data for the collection districts enumerated in the test.

As shown in the chart below, age distributions between Forms 9 and 10 and 1991 Census data for the collection districts enumerated in the test were generally similar.

When analysing the age distributions by Forms 9, 10 and the 1991 Census data, the distributions were similar for those aged less than 65 years. However, the distributions for those aged 65 years and over were quite different. This is likely due to the fact that the 1991 Census data was used to determine the age distribution of the population.

### 1.3 Changes

Even though the 1991 Census data was used for the 1996 Census, the distributions for those aged 65 years and over should mean that the 1996 Census data is more accurate than the 1991 Census data.

### 1.4 Future

1996 Census response compared to 1991 Census response. In addition, the 1996 Census data is more accurate than the 1991 Census data for those aged 65 years and over.

## 2. AGE LEFT SCHOOL

### 1991 Census Question

- 23 How old was the person when he or she left school?**
- For persons who are primary or secondary school students, mark first box.
  - For persons who did not go to school, mark second box.
- ( ) Still at primary or secondary school  
 ( ) Did not go to school  
 ( ) 14 years or younger  
 ( ) 15 years  
 ( ) 16 years  
 ( ) 17 years  
 ( ) 18 years  
 ( ) 19 years or older

### 2.1 Background

Evaluation studies on 1991 Census data suggested that a possible cause for the increase in response to the over 19 years category from the 1986 Census could be that people interpreted 'school' to include post secondary studies. The term 'school' was not defined in the 1991 Census. As a result, various ways to include a definition of school were tested in the March 1993, August 1993, March 1994 and August 1994 tests.

The other two issues to be tested were related to changes in the ABS standard: a) changes to the response categories; and b) an instruction for people who returned to school after a break.

### 2.2 Test Results

#### 2.2.1 Defining 'school'

Results from the two early tests (March and August 1993) suggested that adding the words 'primary or secondary school' to the question may result in fewer people stating the year they completed post-secondary qualifications as opposed to secondary education, but the numbers were too small to make a final decision. For this reason, the March 1994 test again tested the change, but it resulted in no significant difference between the two test forms, and it was decided to re-test this objective using the larger population of the August 1994 test. This last test discovered greater distinction between the two test forms, confirming that the additional words performed better.

**TABLE 2.1: AGE LEFT SCHOOL BY FORM TYPES<sup>(a)</sup>**  
(percent)

<i>Age Left School</i>	<i>March 1993</i>		<i>August 1993</i>		<i>March 1994</i>		<i>August 1994</i>	
	<i>Form 1</i>	<i>Form 2</i>	<i>Form 3</i>	<i>Form 4</i>	<i>Form 6</i>	<i>Form 7</i>	<i>Form 9</i>	<i>Form 10</i>
Less than 15 years	35.1	33.1	20.2	21.4	36.8	36.7	20.5	36.6
16 years	26.3	30.9	16.5	16.9	18.7	18.9	23.3	19.4
17 years	23.0	22.9	23.3	26.7	16.9	14.4	17.5	22.2
18 years	8.9	6.1	16.2	21.0	11.7	13.8	19.6	6.8
19 years or older	1.9	1.6	14.4	6.1	2.9	2.4	6.7	3.4
Still at school	4.1	4.4	8.2	7.0	5.7	3.0	5.2	5.2
Did not go to school	0.7	1.0	1.4	0.8	0.4	0.4	0.5	0.6
Not stated	9.1	6.9	7.8	7.8	6.9	10.5	6.6	5.9
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

(a) Excluding persons aged under 15 years.

Perhaps surprisingly the major shift was from '19 years or older' to 'less than 15 years'. This could possibly indicate that the major source of confusing is with "trade schools" rather than tertiary related "law" and "medical" schools.

#### *March 1993*

The March 1993 test was the first time changes made to the Age Left School question were tested. Both form types had the same question design, which differed from 1991 Census question design in the addition of 'primary or secondary' in the question.

Form 1 had a higher non-response rate of 9.1% compared to Form 2 (6.9%) and the 1991 Census (5.8%) for the test area. The proportion of responses to '19 years and over' changed from 4.9% in the 1991 Census to 1.8% in the test. The difference of 3.1% was statistically significant, suggesting that the inclusion of 'primary or secondary' in the question on both forms made an impact on respondents.

#### *August 1993*

For the next test, August 1993, the inclusion of 'primary and secondary' in the questions was again tested, on Form 4. However Form 3 retained the 1991 question design to make comparisons easier.

Form 3 recorded a marginally lower non-response rate at 7.8% when compared to the 1991 Census non-response rate for the test area (8.6%). The level of non-response on Form 4 was the same as that found on Form 3 (7.8%). The analysis indicated that the Form 4 approach results in a greater proportion of responses to the '17 years' and '18 years' categories, and a marked decline in responses to the '19 years' and '20 years or older' categories as compared to Form 3.

#### *March 1994*

The March 1994 question continued to have 'primary and secondary school' and the instruction remained the same as previously tested. Form 6 retained the 1991 Census question design for comparison.

Significantly fewer people reported that they were 'still at school' on Form 7 (3.0% compared with 5.7% on Form 6), which suggested that the words 'primary or secondary' had clarified the meaning of school for respondents still studying at university or TAFE. However it was expected that response rates to the '19 years or older' category would be lower for Form 7 than Form 6, but there was no significant difference between the two form types.

Telephone follow-up found that between 11 and 13 people answered the Age Left School question incorrectly i.e. answered '19 years or over' but at follow-up interview stated they left school at ages younger than 19. Nine of the remaining 13 who left school aged 19 or older went to a post-secondary institution, and these people completed their qualification at ages ranging from 22 to 39, with only one respondent providing the same age for leaving school as the post-secondary institution they attended.

#### *August 1994*

Since testing in March 1994 resulted in no significant difference between the two test form types for the '19 years or older' category, it was decided to re-test this objective using the larger population of the August 1994 test. Question designs repeated those used in the previous test.

The extra words qualifying the meaning of 'school' had quite a significant effect in this test. Non-response was reduced by a statistically significant margin. Also, a far higher percentage of people responded to the '15 years' category for Form 10 than Form 9. The converse was true for the '18 years' and '19 years or older' categories, indicating a substantial filtering away from these responses and reducing respondent error.

A number of post-evaluation telephone follow-up interviews were conducted with respondents who had answered that they left school at '19 years or older'. Forty-two people who said that they had left school at '19 years or older' were contacted to determine whether they marked the age at which they left primary or secondary school or the age at which left post-secondary education such as a university.

Fifteen of the 27 Form 9 respondents interviewed (55.5%) had given the correct answer on the form while 11 (40.7%) of respondents had actually left at an age less than 19 years.

Respondents were also asked if they had attended university or TAFE and if so, the age at which they had left university or TAFE. Twenty respondents said that they had attended university or TAFE. One person was still studying and another had not completed their studies. Ninety percent of those respondents who had attended university or TAFE provided an age that was two or more years older than the age they reported on the form.

A further 15 Form 10 respondents were interviewed who had answered '19 years or more' to the question, 'How old was the person when he or she left primary or secondary school'. Nine people had left school at less than 19 years and 6 at 19 years or older.

Given the difference in distributions between Form 9 and Form 10 for the '18 years' or '19 years or older' categories, it seemed that the words 'primary or secondary school' had clarified the meaning of the question for many respondents. The results indicated that incorporating the definition of school in the question is more effective than the bullet instruction used on Form 9 and in the 1991 Census.

#### *2.2.2 Changes to response categories*

For the March 1993 test the response categories were changed, with the starting age being 15 years or younger, and the final category being 20 years or older. This was to test a change in the ABS standard. Forms 1 and 2 had the same form design.

Non-response by age revealed that for this test, 12.6% of all persons aged 60 years or over did not respond, while only 5.1% of persons aged 15 to 59 years did not respond. Ten respondents marked the '20 years or older' category. It appears that of these, 5 respondents probably answered incorrectly. Further analysis revealed that 4 of the 5 were aged 60 years or older, and one respondent was aged 20 years and attending an educational institution.

The response categories were tested again in August 1993, and both forms retained the question design used in March 1993.

The effects of the addition of the response category '20 years or older' in the August 1993 test was evaluated by examining the distribution of responses to the '19 years or older' and 'Still at school' categories between Form 3 and the 1991 Census. For both response categories, Form 3 recorded a higher proportion of responses than the 1991 Census. Although both were marginal increases, the proportional difference for the category 'Still at school' was statistically significant. This indicated that the '20 years or older' category encourages misreporting by giving respondents the mistaken impression that 'school' relates to post-secondary qualifications. The much lower proportion of responses to the '20 years or older' category on Form 4 (7.1% lower than Form 3), which defines 'school' as meaning primary or secondary schooling, provides strong evidence in support of this argument.

The subsequent recommendation from this test was to exclude the '20 years or older' category or any extension of that category based on possible misreporting by respondents.

### *2.2.3 Instruction for people returning to school after a break*

The March 1993 test first tested an additional instruction: "For persons who returned after a break to complete their schooling, mark the age at which they first left school". However, no conclusive evidence was found to suggest that the instruction was an improvement to the question design.

For the August 1993 test, the instruction on Form 4 changed to "For persons who returned after a break to complete their schooling, mark the age at which they last left school" because the ABS standard had changed. The question for the August test therefore changed in concept according to the ABS standard and asked for 'last left schooling' rather than 'first left schooling'.

It was expected that as the age of those returning after a break would be relatively older, the change would increase the proportion of responses to the '20 years or older' response category on Form 4. In fact, the results found that the responses to '20 years or older' on Form 4 was lower than those for Form 3. This may have reflected the change to the question wording on Form 4 which had 'primary or secondary' in the question.

## **2.3 Changes Made For The 1996 Census**

The addition of the words 'primary or secondary' to the question was found to be the most effective way to define school. Testing in all four tests found that it reduced the number of people incorrectly marking the 19 years or older categories.

The 1996 age left school question retained the same response categories as those used in 1991. It was found that the '20 years or older' category encouraged misreporting of the age at which the person left primary or secondary school.

The additional instruction 'For persons who returned after a break to complete their schooling, mark the age at which they last left school' did not appear to adversely affect response distributions, when combined with the definition of school in the actual question wording. As such, it was added in the 1996 Census question design.

## **2.4 Future Evaluation**

Investigate whether there is any evidence of people continuing to mark the 19 years or older category.

### 3. ANCESTRY

#### *1986 Census Question*

15. What is each person's ancestry?

- For example, Greek, English, Indian, Armenian  
Aboriginal, Chinese etc.

Ancestry.....

.....  
.....

#### 3.1 Background

A question on ancestry (shown above) was included for the first time on the 1986 Census form. This resulted from an investigation by the 1986 Population Census Ethnicity Committee on the need for data on ethnicity other than language, birthplace or birthplace of parents. The question was designed to identify the respondent's origin rather than a subjective perception of their ethnic background.

In 1993 the ABS decided to test a question on ethnic origin, despite its reservations about its suitability as a 1996 Census topic, after receiving submissions from stakeholders and conducting discussions with them, and after the Australian Statistics Advisory Committee (ASAC) had recommended that if an acceptable question could be developed, it should be considered as a topic for the 1996 Census. ASAC advised the ABS to test a 'self-identification' ancestry question, instead of one similar to that used in the 1986 Census. As can be seen, the recommended question (on Form 3) is really a mixture of wordings associated with both the ancestry (historical) approach and the cultural affinity approach to measuring ethnic identity. (The 1986 Population Census Ethnicity Committee Report cited in 'References' later in this section provides a further explanation of these concepts.)

This self-identification question, together with an amended ancestry question aimed at reducing the amount and cost of coding compared to the 1986 Census question, were tested in August 1993. Coding was expected to be reduced for the test questions because it was anticipated that in most cases a person's ancestry would be the same as their country of birth. The self-identification question was tested on Form 4 and the other question on Form 3, with households in the test receiving alternate forms.

The two ancestry questions were tested to determine the extent to which the results obtained were compatible with data collected from other questions on the form, e.g. birthplace, birthplace of parents and religion, and to what extent the ancestry results added to this information. Also measured was the extent of comparability with 1986 Census results, as well as respondent understanding of the ancestry questions, which was determined by telephone interviews after the test.

#### 3.2 Testing Results

##### *Form 3*

Is the person's ancestry different from their country of birth?

- The person may identify with more than one ancestry.

( ) No

( ) Yes - please specify ancestry

## Form 4

Does the person identify with an ancestry different from their country of birth?

( ) No

( ) Yes - please specify ancestry

- The person may identify with more than one ancestry.

As can be seen in Table 3.1, the self-identification question on Form 4 had a very high non-response rate compared to the question on Form 3, which had a rate of non-response similar to the 1986 Census question. (It should be noted that non-response rates are usually higher in tests because of their voluntary nature.)

**TABLE 3.1: NON-RESPONSE RATES TO THE ANCESTRY QUESTIONS IN THE 1986 CENSUS AND AUGUST 1993 TEST (percent)**

	1986 Census	Form 3	August 1993 Form 4
<i>Non-response rate</i>			
All people	6.8	7.3	12.2
Australian born	7.0	6.3	8.7
<i>Non-respondents by birthplace</i>			
Australian born	79.7	56.5	45.5
Overseas born	16.3	41.5	47.3
Birthplace not stated	4.0	2.1	7.2
<b>Subtotal</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

It appears that a high proportion of respondents of ethnic background did not answer the test questions. More than two-thirds of non-respondents in the August test had at least one overseas-born parent, and so it is possible that many 'Yes' responses were lost. Form 4 rates worse than Form 3, as it had a higher overall level of non-response and a higher proportion of non-respondents with an overseas-born parent.

**TABLE 3.2: JEWISH RELIGION AND STATED ANCESTRY, AUGUST 1993 TEST (percent)**

	Form 3	Form 4
Jewish	3.7	39.0
Jewish/other	13.1	15.9
Australian	—	2.4
Other	77.6	31.7
No written response	5.6	11.0
<b>Total</b>	<b>100.0</b>	<b>100.0</b>

Those in the test who answered their religion was Jewish were more likely than those of other religions to indicate they had an ancestry different to their country of birth. Responses differed according to the form type, with Form 3 capturing factual responses such as birthplace of parents, but Form 4 answers more likely to indicate identification with a Jewish ancestry.

.....

**TABLE 3.3: PEOPLE WITH AUSTRALIAN ANCESTRY, 1986 CENSUS  
AND AUGUST 1993 TEST**  
(percent)

<i>Australian born and Australian ancestry</i>	<i>1986 Census</i>	<i>August 1993</i>	
		<i>Form 3</i>	<i>Form 4</i>
All	20.3	74.7	89.0
Both parents born in Australia	.....	44.5	51.0
Both parents born overseas	.....	.....	.....
One parent born overseas	.....	.....	.....
<b>All people</b>	<b>20.3</b>	<b>47.8</b>	<b>47.7</b>

n.c. Not calculated

The proportion of responses for Australian-only ancestry for both questions in the test was more than two times greater than for the 1986 Census results. Many respondents, who were born in Australia and had one or both parents born overseas, obviously did not have an Australian ancestry, but did not report it on Form 3 or identify with it on Form 4. More people indicated that their ancestry was different to their country of birth on Form 4 than on Form 3.

Telephone follow-up indicated that although most respondents said they knew what ancestry meant, they were unsure how to answer the question on either form. Form 4 included a number of complex concepts and Form 4 respondents were often more confused than those who were answering the question on Form 3 because of this. Some respondents, from both form types, indicated at interview that given the opportunity, they would probably have changed their answers on the test form.

### 3.3 Changes Made For The 1996 Census

An ancestry question was not included in the 1996 Census as such poor quality data was obtained from testing.

### 3.4 Future Evaluation

The issue of whether a direct question on ethnic identity needs to be included in the 2001 Census is the subject of consultation with key user groups which began in 1995. Based on those consultations, and if an appropriate question can be agreed on, further testing may be undertaken.

### References

*1986 Population Census Ethnicity Committee, The measurement of Ethnicity in the Australian Census of Population and Housing* (Cat. No. 2172.0), Canberra, 1984.

*Population Census Development, Census Working Paper 94/4: Testing of Ethnic Origin Questions for the 1996 Census, 1994.*

## 4. BIRTHPLACE

### Form 9

In which country was the person born?

- ☐ Australia. Now go to 14
- ☐ England
- ☐ Scotland
- ☐ Italy
- ☐ Greece
- ☐ New Zealand
- ☐ Viet Nam
- ☐ Other - please specify

### Form 10

In which country was the person born?

- ☐ Australia > Go to 14
- ☐ England
- ☐ Scotland
- ☐ Italy
- ☐ Greece
- ☐ New Zealand
- ☐ The Netherlands
- ☐ Other - please specify

### 4.1 Background

The 1991 Census listed the categories for Birthplace according to those with the highest response rates in the 1986 Census. This was calculated by adding the Birthplace of Individual, Birthplace of Mother and Birthplace of Father questions together and taking the seven countries with the highest responses. For the 1996 Census, it was thought to be more logical for the categories for each of the three questions to be taken from the top seven for that particular question. This meant that Viet Nam was in seventh place for Birthplace of Individual, but that The Netherlands would be seventh for both Birthplace of Mother and Father.

### 4.2 Test Results

This change was tested in the August 1994 test. The two form types differed in their response categories for Birthplace of Individual, with Form 9 having Viet Nam as the second last category, and Form 10 having The Netherlands. For both form types, Birthplace of Mother and Father had The Netherlands as the second last category.

Table 4.1 shows the distribution of responses for the OMR categories listed on each form, for Birthplace of Individual. As can be seen in this table, Viet Nam has a higher proportion of captured responses for Form 9 than Form 10, and The Netherlands has a higher response on Form 10 than Form 9. These differences are significant, suggesting that, in this test, there was a significant 'list effect'. A 'list effect' indicates that respondents are more likely to mark a response that is provided as a category, than if they have to write it in the 'other' box.

There are two aspects to a 'list effect'. On one hand, people may mark an incorrect response category simply because it is listed (a variety of motivations could operate here). On the other hand, some people may fail to provide an appropriate written response, when the category appropriate to them is not listed. There is clearly potential for overlap in these two aspects and, on most occasions, a mixture of both kinds of error are likely to occur.

The test indicates that different results will be obtained according to which list is used, but provides no guidance as to which result will be more accurate.

**TABLE 4.1 DISTRIBUTION OF RESPONSES TO BIRTHPLACE OF INDIVIDUAL,  
AUGUST 1994 TEST AND 1991 CENSUS**

Country	Form 9		Form 10		1991 Census	
	Number	Percent	Number	Percent	Number	Percent
Australia	8,683	68.8	8,215	67.1	20,254	68.9
England	1,225	9.7	1,152	9.4	2,997	10.2

Scotland	168	1.3	214	1.7	428	1.5
Italy	186	1.5	200	1.6	442	1.5
Greece	62	0.5	49	0.4	113	0.4
New Zealand	247	2.0	277	2.3	720	2.4
The Netherlands	40	0.3	99	0.8	247	0.8
Viet Nam	234	1.9	169	1.4	408	1.4
Other	1,563	12.4	1,535	12.5	3,380	11.5
Not stated	212	1.7	328	2.7	427	1.5
<b>Total</b>	<b>12,620</b>	<b>100.0</b>	<b>12,238</b>	<b>100.0</b>	<b>29,416</b>	<b>100.0</b>

Given that on Form 9, there were different response categories for Birthplace of Mother and Father (The Netherlands) compared with Birthplace of Individual (Viet Nam), there existed the possibility that respondents might become confused and accidentally mark The Netherlands category when they are born in Viet Nam. However, there was only one case of this occurring in the test, which does not suggest it is a significant problem. Examin

variables Birthplace of Mother and Birthplace of Father for Australia in the 1991 Census revealed that for people born in The Netherlands, 89% had both parents born in The Netherlands also. However, for people born in Viet Nam, only 78% had both parents born in Viet Nam. This means that 22% of Vietnamese-born would need to write in the country of birth for one or both parents even if Viet Nam was a listed category, whereas only 11% of Netherlands-born would need to utilise the 'other' box for one or both parents if The Netherlands was a category. On balance there is more respondent benefit in keeping to the 'most common response' rule and retaining The Netherlands as a listed response category for Birthplace of Mother and Birthplace of Father questions. ation of the

A focus group with Vietnamese people was held in the Perth Office on 21 August 1994. No-one had any specific problems with any of the Birthplace questions when completing test forms. In particular, there were no difficulties with the variation in OMR categories between Birthplace of Individual and Birthplace of Mother and Father. It was not possible to arrange a similar group of Dutch people since they are more widely dispersed through the communi

### 4.3 Changes Made

Given evidence of the existence of a list effect, and without the opportunity to list both Viet Nam and The Netherlands as categories, it was decided to determine the list for Birthplace of Individual on the basis of current size. It was felt important to provide a category for Vietnamese-born people as they were a larger, and faster-growing, population in the 1991 Census than people born in The Netherlands. As a more recently arrived group of migrants with a more different cultural background, Vietnamese-born are also more likely to benefit from seeing the appropriate category listed.

Therefore, Viet Nam was included as a category for Birthplace of Individual, and The Netherlands as a category for Birthplace of Mother and Father.

#### **4.4 Future Evaluation**

Further analysis of 1996 data for all three Birthplace questions will be needed to monitor changes the distribution of responses compared with 1991 Census results.

## 5. DISABILITY

### 5.1 Background

As mentioned in the Introduction, a number of submissions were received disagreeing with the ABS' preliminary recommendation in the publication 1996 Census of Population and Housing: ABS Views on Content and Procedures, to exclude a topic on disability in the 1996 Census. After extensive consultation with various organisations, it was decided to field test questions which would identify people with a severe or profound disability. As age is highly correlated with disability and handicap, collection districts with high proportions of the aged were identified by Statistical Services Branch for inclusion in the sample. By aiming at the severely disabled population it was hoped to produce reliable data. This is because many problems with data quality were experienced by overseas statistical agencies collecting information about people with a low or moderate level of handicap.

After consultations with interested users and organisations representing people with disabilities, two questions were developed for use in the November 1993 test in areas of Melbourne. *Census Working Paper 94/3, Disability Census Test: November 1993* reports how the following disability questions were tested, and analyses the results obtained, with specific reference to the quality of the data.

**11 Does the person have any physical, intellectual or sensory disability, brain injury or mental illness which has lasted, or is likely to last for six months or more?**

( ) Yes, has disability >Go to 12  
( ) No >Go to 13

- If the person is less than five years old, leave blank.

**12 As a result of the above disability, does the person ever need, or receive, help or supervision with the following activities:**

- Moving around at home or elsewhere (for example, getting out of bed, shopping, visiting people)
- Taking care of personal needs (for example, dressing, showering, toileting, or eating)
- Communicating verbally (for example, being understood or understanding others in the person's own language)

( ) Yes, needs help or supervision moving around

( ) Yes, need help or supervision with personal needs

( ) Yes, need help or supervision communicating verbally

( ) No, doesn't need help or supervision in these activities

Concerns were expressed that respondents would not properly understand what the questions were asking, as they were more complex than most others asked on the Census Test forms. The 'Gunning Fog Index of Readability' was used to analyse the complexity of the questions and it was determined that people would need 18 years of education to understand the first disability question and 14 years of education to understand the second.

Observation studies were undertaken in Canberra and Melbourne prior to the test. They indicated that while people did not necessarily fully understand the first disability question, they focused on the word 'disability', and if they recognised or acknowledged they had a disability, they would then answer the second question which collected the important information.

The 29 collection districts chosen for the test were those for which 10% or more of the population were predicted to have a severe handicap.

Follow-up interviews were conducted when the test form was collected.

### 5.2 Test Results

The proportions of false negatives (those categorised as having a severe handicap in the follow-up survey but not in the Census test) and false positives (those categorised as having a severe handicap in the Census test but not in the follow-up survey) were substantial. More than 52% of responses were false negatives. An additional 10% (17) of those classified as having a severe handicap in the follow-up survey did not provide a codable answer for the Census test questions on disability. Thirty-one people (30% of those who would be classified as severely handicapped in the Census test) did not have this information confirmed in the follow-up survey (i.e. false positives). Only 38% of those

people identified with a severe handicap (according to the survey questions) identified themselves as such on the Census test form.

Approximately two-fifths of the 38% of respondents who correctly identified themselves in the Census test forms gave the same answer in the test and the follow-up survey about the type of handicap for which assistance was required.

Results from the Census test were compared with those from the 1993 Survey of Disability, Aging and Carers (SDAC). Age-specific disability rates were calculated for the categories of severe handicap and disability for the follow-up survey and the household component of the SDAC.

**TABLE 5.1: AGE-SPECIFIC DISABILITY RATES (PER 1,000 POPULATION),  
SURVEY OF DISABILITY AGING AND CARERS 1993**

<i>Age groups</i>	<i>Severe handicap</i>		<i>Disability</i>	
	<i>SDAC HH</i>	<i>Follow-up</i>	<i>SDAC HH</i>	<i>Follow-up</i>
5-14 years	24.1	29.2	82.6	160.6
15-59 years	23.3	24.4	134.7	187.3
60-64 years	42.1	98.9	360.0	483.5
65-69 years	65.7	82.1	420.4	517.9
70-74 years	103.7	76.9	555.3	555.9
75-79 years	130.2	107.1	563.7	583.3
80+ years	305.0	200.7	682.0	759.9
Total rate	36.9	69.4	183.2	385.3
		*(36.2)		*(235.8)

\* Rate standardised to the Australian population at March 1993 (e.g. the SDAC population benchmark).

HH = Household component of the Survey only.

There were a number of differences in the rates for the two surveys, as can be seen in Table 5.1, but there are no obvious reasons for these differences. Assuming the SDAC results correctly indicate the level of severity of handicap, it appears that those with a severe handicap, aged between 60 and 69 years were overcounted in the follow-up survey, but those aged 70 years or more were undercounted. Undercounting of the oldest age groups is supported by anecdotal evidence from interviewers' reports, which often stated that respondents were underestimating their conditions and need for help. However, the age-standardised rate for severe handicap for the follow-up survey was very close to the SDAC rate.

The Census test identified 6.9% of respondents with a severe handicap (178 of the 2,576 respondents). If the test had found the same age-specific disability as the Survey of Disability, Ageing and Carers, i.e. 204 people with a severe handicap, this would have represented 7.9% of respondents interviewed, which is less than that predicted. The prediction of 10% of the population having a severe handicap was based on a model using the 1991 Census age and sex characteristics of the test CDs and levels of severe handicap found in the 1988 Survey of Disabled and Aged Persons. The reason for lower levels of severe handicap found in the test may be because those interviewed were mainly living independently and were more healthy than other people their age.

### 5.3 Changes Made

Disability is excluded from the 1996 Census form because testing showed that, even for those with a severe handicap, it is difficult to accurately measure the concept. Analysis of data from the Census test showed that the quality of the data obtained from a Census (using those questions) would not be sufficiently accurate to provide usable small area data or data for small population groups.

### 5.4 Future Evaluation

A Census Consultative Committee on Disability Data was formed in 1995, to investigate the need for disability data and the best way of meeting data needs. Lack of time after the 1993 test excluded further testing of disability questions for the 1996 Census. By having discussions with users of disability data well in advance of the 2001 Census, it is hoped to fully identify users' needs and to pursue alternative data sources and further testing of disability questions for the 2001 Census.

## 6. DWELLING QUESTIONS OVERVIEW

Comprehensive testing of the dwelling questions on the household form, comprising Number of Bedrooms, Household Payments, Tenure, Type of Landlord and Furnished/Unfurnished, was undertaken in the 1996 Census cycle. Data quality for 1991 Census dwelling questions was 'quite good', according to the Census Working Paper 95/1, 1991 Census Data Quality: Housing (p.55). However, Population Census Development subsection was of the opinion that better quality information could be obtained if the layout was changed and the dwelling questions were redesigned.

Testing commenced in July 1992, and the revised dwelling questions on the OCR form appeared cluttered and lengthy compared to the 1991 Census OMR design. The self-coded response categories for four of the questions were replaced with boxes requiring handwritten responses, and these changes probably contributed to the higher non-response rates recorded on the OCR form. The layout was viewed as unsuccessful after test results were analysed.

Later in 1992, it was decided by the First Assistant Statistician in Social and Labour Division that the 1996 Census form would be in an OMR format, and so testing of the dwelling questions in that format was implemented. More detailed information about the testing program for each dwelling question is available in the following sections of this working paper, listed by topic name.

Many of the alterations made to the dwelling questions for the 1996 Census reflect societal changes and make the questions more relevant for respondents. For example: tenure includes additional response categories of 'rent/buy', 'rent free', 'life tenure' (for residents in retirement establishments) and 'other' to account for the increasing variety of tenure arrangements available, and furnished/unfurnished includes a category of 'partly furnished'.

## 7. BEDROOMS

### 1991 Census Question

- 41 How many bedrooms are there in this dwelling?
- ☐ None or 1 bedroom
  - ☐ 2 bedrooms
  - ☐ 3 bedrooms
  - ☐ 4 bedrooms
  - ☐ 5 bedrooms or more

### 7.1 Background

The number of bedrooms question was tested in the March 1994 and August 1994 tests. The objective of these tests was to improve respondents' understanding of the concept of the number of bedrooms in a dwelling.

### 7.2 Test Results

#### 7.2.1 March 1994

In the March 1994 test, Form 6 had the same question as it was in the 1991 Census. On Form 7 the 'None' and '1' response categories were separated, in order to provide users of census data with more detailed information.

*Form 7*

- 44 How many bedrooms are there in this household's dwelling?
- ☐ None
  - ☐ 1 bedroom
  - ☐ 2 bedrooms
  - ☐ 3 bedrooms
  - ☐ 4 bedrooms
  - ☐ 5 bedrooms or more

Non-response was higher on Form 6 at 6.6% compared to 4.7% on Form 7 with the response distributions similar for both forms, indicating data quality was not adversely affected by the different wording. The revised format also provided more detail as 'none' and 'one bedroom' were separate categories (see Chapter 11 for further detail on household's dwelling).

#### 7.2.2 August 1994

*Form 10*

- 43 How many bedrooms are there in this household's accommodation?
- ☐ None (includes Bedsitter)
  - ☐ 1 bedroom
  - ☐ 2 bedrooms
  - ☐ 3 bedrooms
  - ☐ 4 bedrooms
  - ☐ 5 bedrooms or more

In the August 1994 test, Form 9 was similar to 1991 question.

The non-response rate was higher for both forms than for the 1991 Census, although not significantly, but there was little difference between response distributions for the two forms.

Evaluation of 1991 Census housing data had revealed that people living in caravans in caravan parks, who received a household form, had difficulty answering the bedrooms question.

Analysis of responses for people living in caravans revealed that the Form 10 question performed better in terms of non-response, probably because the response categories were more applicable for those people. Separately identifying no bedrooms and one bedroom provides more detailed information about caravans.

#### 7.2.3 Cognitive studies

Focus groups held prior to the August 1994 test revealed that some respondents had difficulty interpreting what was meant by 'bedroom'. In particular, rooms which used to be bedrooms and are now studies, or small rooms which could be bedrooms but are used for another purpose, create difficulties for some respondents. This issue was investigated in the August 1994 test through observation studies and analysis.

Observation studies conducted during the August 1994 test revealed that householders appeared to be divided into two groups - those who count bedrooms as they were originally planned to be, and those who only count rooms currently used as bedrooms. It was found that most people had strong ideas on what a bedroom was, and attempting to define a bedroom on the Census form could confuse the half of the population which does not agree with the definition.

### **7.3 Changes Made For The 1996 Census**

The question wording is unchanged from the 1991 form, but the response categories have been altered slightly, so that 'none' and '1' bedroom are separate categories, with 'none' followed by '(includes Bedsitter)' to clarify what is meant by that term.

### **7.4 Future Evaluation**

The proposed interim standard for number of bedrooms by the classification and standard section can be tested in view of adopting a standard definition of bedrooms for the 2001 Census. Also have to monitor the quality of the 1996 Census data to see if further tests on dwelling questions needed for 2001.

## 8. FURNISHED/UNFURNISHED

### 1991 Census Question

Is the dwelling rented  
furnished or unfurnished?

☐ Furnished

Now go to 43

☐ Unfurnished

### 8.1 Background

Data quality from this question in 1991 was not as good as that from the 1986 Census because it had a higher non-response rate. The 1991 question included a limited range of response categories and it was unclear which category should have been marked by respondents who were renting a partly furnished dwelling. It was also positioned at the bottom corner of the page, where it could be easily missed by some respondents. Because of these problems, a new design was tested in March 1994.

### 8.2 Test Results

*Form 6*

1991 Census question, positioned close to the bottom of the page.

*Form 7*

The following question was located in the bottom half of the page, but higher up than on Form 6.

48 If the household's dwelling is rented, was it  
furnished by the landlord?

☐ Yes, fully furnished

☐ Yes, partly furnished

☐ No, unfurnished

The new design was tested on Form 7. As illustrated in Table 8.1 below, response distributions for both form types were similar, with a majority of dwellings rented unfurnished. Better quality data was obtained from the Form 7 question because its non-response rate of 1.2% was much lower than the rate of 4.8% recorded for Form 6. As response distributions for both form types were similar, this indicates data quality for the new question was not compromised.

**TABLE 8.1 FURNISHED QUESTION WHERE DWELLING IS RENTED, MARCH 1994 TEST**

	<i>Form 6</i>		<i>Form 7</i>	
	<i>Number</i>	<i>Percent</i>	<i>Number</i>	<i>Percent</i>
Furnished	39	14.3	18	7.5
Partly furnished	n.a.	n.a.	28	11.6
<i>subtotal</i>	39	14.3	46	19.1
Unfurnished	221	81.0	192	79.7
Not stated	13	4.8	3	1.2
<b>Total</b>	<b>273</b>	<b>100.0</b>	<b>241</b>	<b>100.0</b>

n.a. Not applicable

On the 1991 Census form, it was not clear whether those renting a partly furnished dwelling should have marked 'furnished' or 'unfurnished'. The new question design will collect information about those renting a partly furnished dwelling, and may assist in decreasing non-response as the question is now more relevant for these respondents. This means that more detailed and hopefully more accurate data is collected from the new question format.

### 8.3 Changes Made For The 1996 Census

The new question is included on the 1996 Census form because it provided more detailed and better quality data in the test. A slight change of wording has been made to the Form 7 design, and 'Households' dwelling' which confused respondents has been replaced by 'this dwelling'. The position of the question has been changed and it is no longer squashed into the bottom corner of the page.

## 9. HOUSEHOLD PAYMENTS

### 1991 Census Questions

What is the weekly rent?

- ☐ Less than \$48
- ☐ \$48-\$77
- ☐ \$78-\$107
- ☐ \$108-\$137
- ☐ \$138-\$167
- ☐ \$168-\$197
- ☐ \$198-\$227
- ☐ \$228-\$267
- ☐ \$268-\$307
- ☐ \$308-\$347
- ☐ \$348-\$397
- ☐ \$398-\$447
- ☐ \$448-\$497
- ☐ More than \$497

If being bought:

What monthly payment or average monthly payment is being made on the loan(s) for this dwelling?

- ☐ Less than \$201
- ☐ \$201-\$300
- ☐ \$301-\$400
- ☐ \$401-\$475
- ☐ \$476-\$550
- ☐ \$551-\$625
- ☐ \$626-\$700
- ☐ \$701-\$775
- ☐ \$776-\$850
- ☐ \$851-\$925
- ☐ \$926-\$1,000
- ☐ \$1,001-\$1,200
- ☐ \$1,201-\$1,400
- ☐ More than \$1,400

Now go to 43

### 9.1 Background

Data on payments for accommodation were collected in the 1991 Census through questions on Rent and Housing Loan Repayments for private dwellings. A new separate question, asking the amount of money the household paid for their accommodation in weekly, fortnightly or monthly amounts, known as the Household Payments question, was trialed in the two 1994 Census tests. With this design, only one question was needed to capture the actual amount the household paid in either rent or mortgage for their dwelling. Less space was therefore needed on the form. The new question also provided more useful data for users.

Mortgage payments are distinguished from rental payments by checking responses to the Tenure question which follows the new Household Payments question.

### 9.2 Test Results

#### 9.2.1 March 1994

Form 7

In this test, Form 6 incorporated the two 1991 Census questions, while Form 7 included the single Household Payments question. Data for Rent and Mortgage Payments on Form 6 was compared with that from Household Payments on Form 7.

The categories in all the tables in this section correspond to those listed on the 1991 Census form, which enables more effective comparisons with test data. The data used in the tables from Forms 7 and 10 (which included the new question design) and from Form 9 is calculated by adjusting all responses to correspond with the weekly rental categories and monthly housing loan repayments used on the 1991 form.

**TABLE 9.1: DISTRIBUTION OF RESPONSES FOR WEEKLY HOUSEHOLD PAYMENTS FOR RENTED DWELLINGS<sup>(a)</sup>, MARCH 1994 TEST AND 1991 CENSUS**  
(percent)

<i>Rental payments</i>	<i>Form 6</i>	<i>Form 7</i>	<i>1991 Census</i>
------------------------	---------------	---------------	--------------------

Less than \$48	28.2	20.0	25.1
\$48-\$77	15.0	14.2	13.3
\$78-\$107	12.1	15.8	16.5
\$108-\$137	15.4	21.7	17.2
\$138-\$167	16.5	16.7	17.7
\$168-\$197	6.2	4.6	6.2
\$198-\$227	1.8	1.3	1.0
\$228-\$267	0.7	0.8	—
\$268-\$307	0.7	—	—
\$308-\$347	—	—	—
\$348-\$397	—	—	—
\$398-\$447	—	—	—
\$448-\$497	—	—	—
More than \$497	—	2.5	0.7
Not stated	3.3	2.5	2.4
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

(a) Data from rent on Form 6 and household payments per week for respondents whose tenure was 'being rented' on Form 7 were used to calculate payments.

As can be seen from Table 9.1 above, non-response for Rent payments were lower for the new question at 2.5% than for the Census-style ones at 3.3%. Differences for Rent distributions were obvious in the lower ranges and the highest range, as can be seen from this table. More detailed analysis of these responses showed that all answers in the 'More than \$497' range were probably incorrect.

**TABLE 9.2: DISTRIBUTION OF RESPONSES FOR MONTHLY HOUSEHOLD MORTGAGE PAYMENTS<sup>(a)</sup>,  
MARCH 1994 TEST AND 1991 CENSUS  
(percent)**

<i>Mortgage payments</i>	<i>Form 6</i>	<i>Form 7</i>	<i>1991 Census</i>
Less than \$201	7.1	5.5	7.8
\$201-\$300	5.7	12.7	7.8
\$301-\$400	7.1	12.7	12.4
\$401-\$475	14.3	5.5	11.6
\$476-\$550	4.3	7.3	17.1
\$551-\$625	2.9	10.9	13.2
\$626-\$700	10.0	9.1	6.2
\$701-\$775	4.3	1.8	2.3
\$776-\$850	11.4	3.6	2.3
\$851-\$925	5.7	5.5	—
\$926-\$1,000	4.3	5.5	2.3
\$1,001-\$1,200	7.1	3.6	4.7
\$1,201-\$1,400	5.7	3.6	4.7
More than \$1,400	5.7	7.3	5.4
Not stated	4.3	5.5	2.3
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

(a) Data from average monthly payment on Form 6 and household payments per month for respondents whose tenure was 'being purchased' on Form 7 were used to calculate payments.

Non-response for Mortgage Payments was lower for the question on Form 6 at 4.3% than for Form 7 at 5.5%, as indicated in Table 9.2 above. Noticeable differences in distributions occurred for five of the monthly mortgage payment categories, ranging from 5.6 to 8.8%. Reasons for these variations were not discovered, and comparing the distributions with 1991 Census data created more confusion, as neither test form type closely matched all of the 1991 distributions. The variations are probably due to financial, economic and social issues, but as they overlap it is very difficult to identify specific reasons.

## 9.2.2 August 1994

### Form 9

### Form 10

Results from the previous test in March 1994 were ambiguous because distributions for Weekly Rent were similar for both form types, but noticeable differences were found for Mortgage Payments, while non-response was higher on Form 6 for Weekly Rent but greater on Form 7 for Mortgage Payments. Because of these discrepancies, the Household Payment question was included in the August 1994 test. Because some respondents in the March test had written cents in their answer, '.00' was added to the response area on both form types as a visual cue to prevent this.

An error at the data capture stage of processing resulted in no Form 9 Rent data being captured, but some clerical analysis was done for 17 of the collection districts in the test. Distributions of responses for weekly rental for both form types for the 17 collection districts were similar, and the non-response rate was lower for the new question at 3.1% than for the old design at 5.5%, while for the 1991 Census it was 3.0%. As test non-response rates are usually higher than those in the Census, these results are quite good.

**FIGURE 9.1: RESPONSE DISTRIBUTIONS FOR MONTHLY HOUSING LOAN REPAYMENTS FOR DWELLINGS BEING PURCHASED, AUGUST 1994 TEST AND 1991 CENSUS**

When all Mortgage Payment responses from Form 10 were combined into monthly repayment ranges, their distribution was different to Form 9 and 1991 Census data, as can be seen from Figure 9.1 above.

**TABLE 9.3: CLUSTERING OF RESPONSES ON FORM 10, WEEKLY FORTNIGHTLY AND MONTHLY PAYMENTS, AUGUST 1994 TEST**

<i>Actual Response (\$)</i>	<i>Weekly Monthly Equivalent (\$)</i>	<i>%</i>	<i>Actual Response (\$)</i>	<i>Fortnightly Monthly Equivalent (\$)</i>	<i>%</i>	<i>Monthly Response</i>	<i>%</i>
150	217	2.3	200	433	4.6	200	1.5
100	433	8.3	250	542	6.5	300	3.0
110	477	2.6	300	650	6.7	400	2.4
120	520	2.6	350	758	5.0	500	5.7
125	542	3.1	400	867	5.3	600	6.7
150	650	11.7	450	975	2.2	700	2.9
180	780	2.8	500	1,083	4.8	800	3.2
200	867	12.3	600	1,300	2.2	900	1.8
250	1,083	4.6				1,000	5.4
300	1,300	2.8				1,200	12.4
Subtotal	53.1			37.3		35.0	
<b>Count</b>	<b>351</b>			<b>417</b>		<b>595</b>	

Investigation revealed that this difference in distributions may be explained by the clustering of responses. Converting all of the Form 10 responses to monthly amounts and then graphing the distributions together with the Form 9 data showed that the peaks in Figure 9.2 below corresponded to the categories containing the peaks in Table 9.3 above. This appears to be due to the fact that the data on Form 10 was collected in either weekly, fortnightly or monthly amounts, and not due to any respondent error. Many people do not pay their home loan in monthly instalments, and so their responses to Form 9 (which must be in monthly amounts) may been approximations, perhaps arrived at by doubling their fortnightly payment and then rounding, which are two sources of introduced error. It is possible that the responses on Form 10 may therefore be more accurate than those obtained from Form 9 and the 1991 Census.

**FIGURE 9.2: MONTHLY HOUSING LOAN REPAYMENTS, FORM 9 AND FORM 10,  
AUGUST 1994 TEST**

Non-response for those who indicated they were purchasing their dwelling was 5.5% for Form 10, which was 1% lower than for Form 9.

In summary, although the new question format on Form 7 performed better than the old design on Form 6 for rent payments, ambiguous results were obtained for mortgage payments. Because of this, the question was retested in August 1994, where the new question format on Form 10 performed well. Distributions for housing loan repayments were different for Form 10 compared to Form 9 and 1991 Census data, but analysis revealed this may have been because respondents were given the choice of providing weekly, fortnightly or monthly amounts. Overall, the new Household Payments question performed well.

### **9.3 Changes Made For The 1996 Census**

The new Household Payments question replaces the Rent and Average Monthly Payment questions on the 1996 form, as better quality data was obtained from it in testing. Lower non-response rates were recorded and the housing loan repayment data captured may be more accurate, because respondents now have a choice of providing weekly, fortnightly or monthly amounts.

### **9.4 Future Evaluation**

The quality of 1996 data for this topic will be assessed, given the significant changes made to the question.

## 10. LANDLORD

### 1991 Census

42 To whom is rent paid?

- ☐ ACT Housing Trust\*
- ☐ Other government agency
- ☐ Other

\* This was different for each State and Territory with the relevant Public Housing Authority specified.

### 10.1 Background

The 1991 Census question had a limited range of response categories, and did not provide very detailed information about the households renting their dwelling from a landlord other than a government agency. Response categories were expanded for the question tested in the 1996 cycle, and included private and employer landlords, community or co-operative housing groups, and an 'Other' category.

### 10.2 Test Results

#### 10.2.1 August 1993

In the August 1993 test, Form 4 with the experimental question, was tested against Form 3 which used the 1991 Census format.

#### Form 3

42 To whom is rent paid?

- ☐ Vic. Dept. of Housing
- ☐ Other government agency
- ☐ Other

#### Form 4

47 If being rented: to whom is rent paid?

- ☐ Real estate agent or private landlord not in the same household
- ☐ Vic. Dept. of Housing
- ☐ Community or co-operative housing group
- ☐ Employer - government
- ☐ Employer - other
- ☐ Other (including person in same household or anyone else)

The majority of Form 4 respondents who rented (91.3%) indicated that they rented from a real estate agent or private landlord. Form 4 had a lower non response (1.3%) than Form 3 (3.1%), although similar proportions of respondents marked 'Victorian Department of Housing' and the remaining combined categories. The extended list of landlord categories provides more detailed information than Form 3, where 94.5% of respondents marked 'other'.

### 10.2.2 August 1994

#### Form 10

- 46 If this accommodation is being rented, who is it rented from?
- ☐ Private landlord not in the same household
  - ☐ Real estate agent
  - ☐ Homeswest
  - ☐ Community or co-operative housing group
  - ☐ Employer - Government
  - ☐ Employer - other
  - ☐ Other - please specify

Due to an error during data capture, the two categories 'private landlord not in the same household' and 'real estate agent', were captured as one category. Therefore, analysis on these separate categories was unable to be performed.

When the private landlord and real estate agent categories were grouped together, the response distributions were similar for both form types and 1991 Census data. This shows that the separation of the two categories did not affect the overall response distribution for the Landlord question. Neither did the drop of 'public authority' from the first response category in 1991 Census to second in Form 4 and to third in Form 10.

### 10.3 Changes Made For The 1996 Census

The response categories have been expanded from three to seven, as this design performed better in terms of non-response and yielded more detailed information. The question wording has been changed from 'To whom is rent paid?' to 'If this dwelling is being rented, who is it rented from?'.

### 10.4 Future Evaluation

The data quality has to be monitored and the results have to be evaluated before the commencement of 2001 Census question design.

## 11. MULTIPLE-HOUSEHOLD DWELLINGS

### 11.1 Background

The census defines occupied private dwellings as the premises occupied by a household on census night, and so the number of households in dwellings is considered equal to the number of occupied dwellings. This becomes a problem when more than one household lives in a dwelling, which is defined as a multiple-household dwelling. If there are two households identified by a collector as living in one dwelling, then two households and two dwellings will be counted in the census, resulting in an overcount of dwellings in that instance.

Concern was expressed by users of census data in their submissions for the 1996 Census that by not separately identifying households and dwellings, inaccurate dwelling counts were obtained. Also, there was a commitment by Census to investigate the feasibility of reliably identifying multiple-household dwellings and producing a more accurate count of dwellings. Accordingly, attempts were made in the March and August 1994 tests to identify multiple-household dwellings and to collect data from every household.

### 11.2 Test Results

In order to collect the required information, alterations were made to all of the dwelling questions on the test forms. The March test dwelling questions referred to 'household's dwelling', which proved cumbersome and difficult for respondents to comprehend. 'Household's accommodation' was used on the August 1994 form for the first dwelling question and for the remainder 'accommodation' was used. The instruction referring to the dwelling questions was altered to 'Please answer the following questions for this household'. This was an attempt to ensure respondents in multiple-household dwellings completed the dwelling questions for their household only, rather than for the dwelling as a whole.

The August 1994 test was the second attempt at collecting data on multiple-household dwellings. Only four cases had been discovered in the March 1994 test, with the form from just one dwelling being received, making it impossible to analyse results. Collectors in the March test who were not ABS staff and also most householders were very confused by the concept of multiple-household dwellings.

Seventeen households were identified as sharing their building in the August test, and only three forms from these households were found to have been completed with no household or dwelling data errors.

In August 1994, the number of multiple-household dwellings identified was very small, but it is significant that 14 of the 17 identified either did not state or had incorrectly completed at least one of the household questions, and on a topic analysis, less than half of any one topic was answered at all or answered correctly. According to a report written by Population Census Processing and User Services section, attempting to identify multiple-household dwellings adversely affected collection procedures, resulted in poor quality data, had unfavourable implications for family data and may have alienated some minority groups so that they did not complete the form at all.

### 11.3 Changes Made For The 1996 Census

No changes were made to the 1991 Census form or to procedures for collecting data on households and dwellings, because attempting to collect data on multiple-household dwellings was spectacularly unsuccessful in the tests.

## 12. TENURE

### 1991 Census Question

**42 Is this dwelling rented by you or any usual member of this household?**

- ☐ No  
☐ Yes

**To whom is rent paid?**

- ☐ ACT Housing Trust  
☐ Other government agency  
☐ Other

**What is the weekly rent?**

- ☐ Less than \$48  
☐ \$48-\$77  
☐ \$78-\$107  
☐ \$108-\$137  
☐ \$138-\$167  
☐ \$168-\$197  
☐ \$198-\$227  
☐ \$228-\$267  
☐ \$268-\$307  
☐ \$308-\$347  
☐ \$348-\$397  
☐ \$398-\$447  
☐ \$448-\$497  
☐ More than \$497

**Is the dwelling rented  
furnished or unfurnished?**

- ☐ Furnished  
☐ Unfurnished      **Now go to 43**

**Is this dwelling owned (or being bought) by you or  
any usual member of this household?**

- ☐ Yes, owned (paid off).  
**Now go to 43**  
☐ Yes, being bought  
☐ No. **Now go to 43**

**If being bought:**

**What monthly payment or average monthly  
payment is being made on the loan(s) for this  
dwelling?**

- ☐ Less than \$201  
☐ \$201-\$300  
☐ \$301-\$400  
☐ \$401-\$475  
☐ \$476-\$550  
☐ \$551-\$625  
☐ \$626-\$700  
☐ \$701-\$775  
☐ \$776-\$850  
☐ \$851-\$925  
☐ \$926-\$1,000  
☐ \$1,001-\$1,200  
☐ \$1,201-\$1,400  
☐ More than \$1,400

**Now go to 43**

### 12.1 Background

In the 1991 Census, the details of housing tenure (or nature of occupancy) were collected from the responses to six dwelling questions. The questions remained similar to those used in the 1986 Census.

However, the 1991 questions about tenure assumed that the dwelling was either rented, owned or being purchased, and did not allow other forms of occupancy including combination of these to be reported. Responses from households not renting, owning or purchasing their dwellings were likely to be coded to Other/Inadequately described, and there was a rise in these responses and Not Stated codes in 1991. These results reflect the limitations of the classifications used for the dwelling questions. The inappropriateness of the response categories may have resulted in some households not answering any of the questions relating to tenure (generally non-response is a common reaction to confusion) or their responses being incorrectly classified.

In an attempt to make the tenure questions more relevant for households and to reduce non-response, expanded response categories, a revised layout of the dwellings questions, new question wording and different methods of sequencing were trialed in the August 1993, March 1994 and August 1994 tests.

### 12.2 Test Results

#### 12.2.1 August 1993

In the August 1993 test, Form 3 had the same layout for the tenure question as in the 1991 Census. The layout of Form 4 was completely new with each of the dwelling questions positioned separately. A new direct tenure question was included with a 'No, other tenure' category.

*Form 4*

45 Is this dwelling owned by you or any usual member of this household ?

- ( ) Yes, fully owned >Go to 50  
 ( ) No, being bought >Go to 46  
 ( ) No, wholly rented >Go to 47  
 ( ) No, other tenure >Go to 46

**Table 12.1 compares the proportion of responses for Forms 3 and 4 with the 1991 Census.**

**TABLE 12.1 RESPONSE TO MORTGAGE/TENURE QUESTION AUGUST 1993 TEST  
AND 1991 CENSUS**

<i>Form 4</i>	<i>Form 3</i>		<i>1991 Census<sup>(a)</sup></i>		<i>Number Percent</i>	
	<i>Number</i>	<i>Percent</i>			<i>Number Percent</i>	<i>Dwelling rented<sup>(b)</sup></i>
128	15.3	149	17.2	330	16.5	
Dwelling owned <sup>(c)</sup>	386	46.1	411	47.5	823	41.2
Being bought <sup>(c)</sup>	313	37.4	298	34.4	719	36.0
Not being bought/owned, other tenure	11	1.3	8	0.9	128	6.4
<b>Total</b>	<b>838</b>	<b>100.0</b>	<b>866</b>	<b>100.0</b>	<b>2,000</b>	<b>100.0</b>

(a) 1991 Census data for test CDs.

(b) For Form 3 and the Census, a separate question is asked to ascertain whether the dwelling is rented or not.

(c) For Form 3 and the Census, this data relates to dwellings that are not being rented.

An 'average' non-response rate was calculated for all dwelling questions. Comparison of non-response rates between Forms 3 (4.7%) and 4 (2.9%) indicated that the revised layout accompanied by the new methods of sequencing resulted in a lower non-response to nearly all of the dwelling questions. Due to the very low number of responses to the 'No, other tenure' category the response categories for the tenure question were expanded and tested again on Form 7 in March 1994.

### 12.2.2 March 1994

In the March 1994 test the layout for the tenure question on Form 6 was the same as in the 1991 Census. The layout of Form 7 was similar to Form 4 with expanded response categories as shown below.

*Form 7***46 Is the household's dwelling:**

- Owners include owners of caravans or manufactured homes regardless of whether or not site is owned.
  - 'Other' includes households with life tenure in a Retirement Village.
- ☐ Fully owned by this household? >Go to 49
  - ☐ Being purchased by this household? >Go to 49
  - ☐ Being purchased under a rent/buy scheme?
  - ☐ Being rented by this household?
  - ☐ Being occupied rent-free by this household? >Go to 49
  - ☐ Other

The non-response rate for tenure question on Form 7 (9.6%), was lower than for the rent questions on Form 6 (13.9%). The distributions for rented, owned and mortgaged dwellings were similar for both forms with Form 7 providing more detailed information on tenure by using a different question to that which was used in the 1991 Census and for Form 6.

The March 1994 test also found that there were significant differences in the distribution for tenure, particularly in the proportion of 'rented' and 'not rented' dwellings. It was suggested that the increase in response categories allowed respondents to better describe their tenure arrangement.

**12.2.3 August 1994***Form 10***45 Mark the box which best describes this accommodation.**

- Owners include owners of caravans, manufactured homes or houseboats regardless of whether or not the site is owned.
- ☐ Fully owned by this household > Go to 48
  - ☐ Being purchased by this household > Go to 48
  - ☐ Being purchased under a rent/buy scheme
  - ☐ Being rented by this household
  - ☐ Being occupied rent-free by this household
  - ☐ Being occupied under a life tenure scheme > Go to 48
  - ☐ Other – please specify

From the March 1994 test, it was found that householders in self-care accommodation within retirement villages had difficulties with the tenure question. As a result, a response category 'Being occupied under a life tenure scheme' was included in the August 1994 test. If this category was marked, respondents were instructed to skip the rental questions. The August 1994 test aimed at assessing the data quality of the tenure question for retirement villages and measuring the impact of including the 'life tenure' category (For more information, see Chapter 13).

It appeared that the new category 'life tenure' improved the quality of data for households within retirement villages. In addition, it did not create confusion for those respondents who were not living in retirement villages, which was an important factor.

**12.3 Changes Made For The 1996 Census**

It was decided to incorporate the revised layout for the dwelling questions and also to include the new method of sequencing for the 1996 Census. A tenure question was added, with some more informative response categories. It is similar to the question asked on Form Type 10.

**12.4 Future Evaluation**

Need to closely monitor the performance of all dwellings questions used in 1996 and consider further modifications or development for the 2001 Census if necessary.

## 13. RETIREMENT VILLAGES

### 13.1 Background

Prior to the 1996 Census, all residents in retirement villages were enumerated on personal rather than household forms. Those living in self-care units will receive household forms for the first time in 1996.

The aims of distributing household forms to these people are to go along with the wishes of these people to be counted as a family, to count the dwellings within retirement villages and to collect improved family data. However the original 1991 question format, asking if the dwelling was owned or being bought, is inappropriate for those residents occupying their units under life tenure or similar schemes. Therefore, there was a need to test alternative question design and response options.

Retirement villages were included in the samples for the two tests conducted in 1994. In the March 1994 test the effectiveness of the Tenure question in retirement villages was measured, and in August 1994 the quality of responses to the dwelling questions from those living in self-care units in retirement establishments was analysed.

The quality of responses to the Tenure question from people living in self-care units in retirement villages was evaluated, to ensure these people could be enumerated effectively on household forms. (Those in hostel or nursing home accommodation will continue to receive personal forms, which do not include the dwelling questions.)

### 13.2 Test Results

#### 13.2.1 March 1994

The performance of the Tenure question in retirement villages was evaluated by comparing results from Form 7 (incorporating the revised Tenure question) with those from Form 6 (using the 1991 Census question).

##### Form 6

Is the dwelling owned (or being bought) by you or any usual member of this household? ☐ Yes, owned (paid off)  
☐ Yes, being bought  
☐ No

##### Form 7

46 Is the household's dwelling: ☐ Fully owned by this household? >Go to 49  
☐ Being purchased by this household? > Go to 49  
☐ Being purchased under a rent/buy scheme?  
☐ Being rented by this household?  
☐ Being occupied rent-free by this household? > Go to 49  
☐ Other

- Owners include owners of caravans or manufactured homes regardless of whether or not site is owned.
- 'Other' includes households with life tenure in a Retirement Village.

It should be noted that analysis for this test refers only to the forms collected from retirement establishments. Significant differences were obtained in non-response rates for the two questions in the March 1994 test. It was clearly lower for the new format, at 13.2% than for the 1991 Census style, at 28.8%. As the table below shows, there were major changes in the distribution of types of Tenure, with large differences in the proportion of rented and 'not rented' dwellings for each form type. A much smaller proportion of dwellings were rented or owned for the new question (on Form 7) than on the form with the 1991-style question (on Form 6), and almost 60% of dwellings were included in the 'Other' category in the new question. It is presumed this difference in 'rented' and 'not rented' dwellings was because the extra response categories on the revised question allowed respondents to better describe their tenure arrangements.

Telephone interviews after the test indicated that people in retirement villages had problems answering the Tenure question on both form types, and many were unsure which response category to mark. Respondents were also confused by being sequenced to the Type of Landlord question on Form 7, when most did not rent their dwelling.

TABLE 13.1: DISTRIBUTION OF RETIREMENT VILLAGE TENURE BY FORM TYPE, MARCH 1994 TEST

Tenure	Form 6		Form 7	
	Number	Percent	Number	Percent
Owned	34	42.5	18	23.7
Being bought	7	8.8	—	—
Other tenure:				

Rent/buy scheme	n.a.	n.a.	—	—
Rented	16	20.0	3	3.9
Rent-free	n.a.	n.a.	—	—
Other	n.a.	n.a.	45	59.2
<i>Subtotal</i>	<i>16</i>	<i>20.0</i>	<i>48</i>	<i>63.1</i>
Not stated	23	28.8	10	13.2
<b>Total</b>	<b>80</b>	<b>100.0</b>	<b>76</b>	<b>100.0</b>

Note: Data obtained from rent and ownership questions on Form 6 and tenure question on Form 7.  
n.a. Not applicable.

### 13.2.2 August 1994

After analysing results from the March test, a category 'Being occupied under a life tenure scheme' was trialed in August 1994, and those marking this category were sequenced to skip the rent questions. The following table shows the distribution of Tenure categories by form type, from a pre-edits file.

**TABLE 13.2: DATA CAPTURE OF TENURE DISTRIBUTION OF RETIREMENT VILLAGES BY FORM TYPE, AUGUST 1994 TEST<sup>(a)</sup>**

<i>Tenure</i>	<i>Form 9</i>		<i>Form 10</i>	
	<i>Number</i>	<i>Percent</i>	<i>Number</i>	<i>Percent</i>
Fully owned	11	10.8	6	6.3
Being purchased	3	2.9	—	—
Rent/buy scheme	n.a.	n.a.	—	—
Rented	55	53.9	26	27.4
Rent free	n.a.	n.a.	3	3.2
Life tenure scheme	n.a.	n.a.	24	25.3
Other	3	2.9	3	3.2
Not stated	30	29.4	33	34.7
<b>Total</b>	<b>102</b>	<b>100.0</b>	<b>95</b>	<b>100.0</b>

(a) This data is from a pre-edits file, and therefore no edits have been performed.  
n.a. Not applicable.

Analysis of final data from the test showed only 8 of 95 responses to the revised Tenure question were 'being occupied under a life tenure scheme'. The majority of responses were in the 'being purchased' or 'rented' categories. However, because of problems with the edits, data obtained before editing is probably a truer representation of the responses for dwellings within retirement villages. It showed that 25% of responses to the form with the new question were given as 'life tenure' with another 27% 'being rented'. The majority of 'rented' responses before edits were applied were found in one collection district, suggesting that many in the same retirement village answered the same way, reflecting the manner in which that retirement village was operating.

The new category 'life tenure' improved the quality of data for households in retirement villages, because respondents had more meaningful categories to answer, which resulted in more accurate data collected from the question. Importantly, it also did not appear to confuse those respondents who were not retirees but were working and living in the retirement villages, e.g. caretakers.

### 13.3 Changes Made For The 1996 Census

The response category 'Being occupied under a life tenure scheme' is included in the revised Tenure question for 1996, as testing showed it improves the quality of responses from those living in self-care units in retirement villages.

## 14. EDUCATIONAL INSTITUTION

### 1991 Census Question

21 What type of educational institution is the person attending?

- Include external or correspondence students.

( ) Pre-school

Infants/Primary school

( ) Government

( ) Non-Government

Secondary school

( ) Government

( ) Non-Government

Tertiary institution

( ) Technical and Further

Education (TAFE) College

- Example of other higher educational institutions:  
Institute of Technology, Institute of Advanced Education, Conservatorium of Music

( ) University, College of Advanced Education (CAE) or other higher educational institution

( ) Other institution  
– please specify

### 14.1 Background

Analysis performed on the quality of Educational Institution data in the 1991 Census revealed a high non-response rate for school aged children (ages 5-14 years) for the educational institution question. Non-response rates were observed for the 5-14 age group in the August 1993 and March 1994 tests and compared with the 1991 Census. It was tested further in the August 1994 test, where the design of the question was changed to try and make a more pronounced distinction between each category of educational institutions, in an attempt to gain more accurate data. The objective was to discover if the non-response rate for school aged children had been lowered, and to discover reasons why if it had not.

A number of changes to the Educational

Institution question were tested in two tests which were held in March 1994 (Forms 6 and 7) and August 1994 (Forms 9 and 10). The alterations to the question included updating the examples and response categories, removing the 'other' write-in box because of the very few responses and including 'Catholic' as a response category, which was requested by some users of Census data.

Prior to the August 1994 test, the ABS received a submission from the Independent Schools' Association requesting that 'Catholic' be added as a response category for the educational institution question. Consultation with the Attorney-General's Department regarding the Census and Statistics Act had found that the inclusion of 'Catholic' would not be asking for a person's religious affiliation, and therefore would not need to be optional. It was therefore decided to test the additional inclusion of 'Catholic' as a category and its impact on response distributions and non-response also was evaluated in the August 1994 test using Forms 9 and 10.

## 14.2 Test Results

### 14.2.1 Removal of the 'Other' Write-in Box

The 1991 Census question contained an 'Other' response category and asked respondents to specify the type of educational institution. However, as very few respondents actually used the write-in area, the 'Other' write-in box in the Educational Institution question was removed from Forms 6 and 7 in the March 1994 test and distributions were compared with the 1991 Census form.

The Educational Institution question on Forms 6 and 7 was similar to the question that was asked in the 1991 Census except there was no write-in box provided.

Table 14.1 shows the distribution of responses to the question for the March 1994 test. Generally, the March 1994 test recorded different distributions for most of the response categories. An analysis of the distribution of responses to this question found differences between Forms 6 and 7 for the infants/primary school categories, although the reasons for this were unclear. However, when combined, the total number of infants/primary school students (both Government and Non-Government) were similar for both forms.

**TABLE 14.1: DISTRIBUTION OF RESPONSES FOR EDUCATIONAL INSTITUTION, MARCH 1994 TEST AND 1991 CENSUS**  
(percent)

<i>Educational Institution</i>	<i>March 1994</i>		
	<i>Form 6</i>	<i>Form 7</i>	<i>1991 Census<sup>(a)</sup></i>
Pre-school	9.0	6.5	4.5
Infants/Primary school			
Government	15.7	23.7	19.1
Non-Government	5.5	1.9	7.6
Secondary school			
Government	17.3	15.8	15.1
Non-Government	5.9	5.1	6.8
Tertiary institution			
Technical or further education institution	16.9	18.6	20.2
University or other higher education institution	27.1	25.6	24.2
Other institution	2.7	2.8	2.5
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

(a) March 1994 test collection districts.

The removal of the write-in box for 'Other institution' appeared to have little effect on the distribution of responses, with similar distributions for the March 1994 test and the 1991 Census, other than the infants/primary school categories.

### 14.2.2 High non-response rate for school aged children

The non-response rate among school aged children was evaluated in the August 1994 test. Table 14.2 shown below reveals the difference in the non-response rate among 5-9 and 10-14 years age groups for each form. Non-response for the 10-14 years age group varied significantly from non-response for the 5-9 years age group, and overall, was much lower. However, it should be noted that the number of students in the 5-14 years age group in this analysis was very small.

**TABLE 14.2: NON-RESPONSE FOR EDUCATIONAL INSTITUTION <sup>(a)</sup> BY AGE, AUGUST 1994 TEST AND 1991 CENSUS**

Age	Form 9		Form 10		1991 Census	
	Number	Percent	Number	Percent	Number	Percent
0-4 years	8	6.2	6	3.6	— (b)	—
5-9 years	58	6.2	28	3.3	145	6.8
10-14 years	35	3.5	29	3.1	118	5.3
15-19 years	28	3.9	28	4.2	88	5.1
20-24 years	16	6.6	14	6.1	15	2.7
25+ years	36	8.6	29	6.9	44	3.9
<b>Total</b>	<b>181</b>	<b>5.3</b>	<b>134</b>	<b>4.1</b>	<b>410</b>	<b>5.0</b>

(a) This table only includes people who responded or on whose behalf a response was offered that they were full-time or part-time students.

(b) In 1991, an edit was made during the output processing phase for persons aged 0-4 years to re-code Type of Institution from not stated to pre-school, if student status was stated as attending.

When the non-response rate was analysed further, it was obvious that the difference in non-response between Forms 9 and 10 was related to the numbers which were set to not stated by main edits. The edits which apply to these age groups change responses to not stated if the response was secondary school or tertiary institution for ages 4 and 5; pre-school, secondary school or tertiary institution for ages 6 to 10; and pre-school, tertiary institution for ages 11 to 14. As can be seen from Table 14.3, Form 9 had a larger proportion of responses set to not stated by edits, than Form 10. This implies that Form 9 had higher numbers marking a response category for which it was unlikely they were attending, given their age.

**TABLE 14.3: NOT STATED RESPONSES FOR AGE GROUPS 5-9 YEARS AND 10-14 YEARS BY FORM TYPE, AUGUST 1994 TEST**

Age	Set NS* by edit		Captured not stated		Total	
	Number	Percent	Number	Percent	Number	Percent
5-9 years						
Form 9	37	63.8	21	36.2	58	100.0
Form 10	12	42.9	16	57.1	28	100.0
10-14 years						
Form 9	19	54.3	16	45.7	35	100.0
<b>Form 10</b>	<b>9</b>	<b>31.0</b>	<b>20</b>	<b>69.0</b>	<b>29</b>	<b>100.0</b>

\*NS Not stated

Form 9 had nine people who were imputed to an age between 5 and 14, whereas Form 10 had no imputations for these ages. This could explain the higher numbers who were set to not stated by edits, since Form 9 had more people imputed to these ages. It is possible that some of these people answered the educational institution question in a way that was inconsistent with their imputed age, although it can only partly explain the difference between the two forms.

Non-response for the 5-9 years age group was significantly lower on Form 10 than Form 9 and in the 1991 Census. The high non-response on Form 9 for this age group can be attributed to more edits being performed which set responses to not stated.

As it does not seem that Age non-response was any different on Forms 9 and 10, this data suggests that there was a difference in the way Age imputation occurred. Given the small numbers this artificial effect seems to be mostly responsible for the 'not stated' difference analysed above. Thus the difference in non-response between the two forms was related to the numbers which were set to not stated by main edits. However, because of the additional information gathered on non-government schools it was decided to retain the Form 10 question format for the 1996 Census.

### 14.2.3 'Catholic' as a response category

'Catholic' was included as a response category under the headings of 'Infants/Primary school' and 'Secondary school' on Form 10 in the August 1994 test. Form 9 did not have this inclusion. As Table 14.4 demonstrates, there was a significant difference between the response distributions for each form type for the primary non-government and secondary non-government categories. The addition of 'Catholic' significantly reduced the number of responses for 'other non-government'.

**TABLE 14.4 : DISTRIBUTION OF RESPONSES FOR EDUCATIONAL INSTITUTION, AUGUST 1994 TEST AND 1991 CENSUS**

<i>Educational Institution</i>	<i>Form 9</i>		<i>Form 10</i>		<i>1991 Census</i>	
	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>
Pre-school	195	5.1	222	6.1	625	7.0
Infants/primary school						
Government	999	26.3	932	25.4	2,233	25.0
Non-government <sup>(a)</sup>	343	9.0	n.a.	n.a.	661	7.4
Catholic <sup>(b)</sup>	n.a.	n.a.	235	6.4	n.a.	n.a.
Other non-government <sup>(b)</sup>	n.a.	n.a.	85	2.3	n.a.	n.a.
Total non-government	343	9.0	320	8.8	661	7.4
Secondary school						
Government	551	14.5	584	15.9	1,396	15.6
Non-government <sup>(a)</sup>	321	8.5	n.a.	n.a.	637	7.1
Catholic <sup>(b)</sup>	n.a.	n.a.	168	4.6	n.a.	n.a.
Other non-government <sup>(b)</sup>	n.a.	n.a.	117	3.2	n.a.	n.a.
Total non-government	321	8.5	285	7.8	637	7.1
Tertiary institution						
Technical or further educational institution	324	8.5	369	10.1	1,046	11.7
University or other higher educational institution	488	12.9	396	10.8	1,070	12.0
Other educational institution	63	1.7	58	1.6	165	1.8
Not stated	508	13.4	500	13.6	1,094	12.3
<b>Total</b>	<b>3,792</b>	<b>100.0</b>	<b>3,666</b>	<b>100.0</b>	<b>8,927</b>	<b>100.0</b>

(a) Category only available in Form 9 and 1991 Census

(b) Category only available in Form 10

n.a. Not applicable

For Form 10 as expected there was a greater proportion of responses to 'Catholic' than 'other non-government school'. However, when the two non-government categories were combined, the distribution was similar to that found on Form 9 and in the 1991 Census.

The total proportion of Primary Non-government responses for Form 10 was 8.7%, which compared well with Form 9 (9.0%). The total Secondary Non-government for Form 10 is 7.8%, compared to 8.5% for Form 9. This indicated that the addition of the extra categories for 'Catholic schools' did not adversely affect the total non-government response.

### 14.3 Changes Made For The 1996 Census

The write-in box for 'Other institution' in the 1991 Census was removed.

'Catholic' has been added as response categories for both Infants/Primary school and Secondary school.

#### 14.4 Future Evaluation

**1996 Census results will need to be monitored for the non response and the distribution of response particularly among school aged children and if non-response is higher than in 1991 Census, data should be analysed further to identify reasons for higher non-response.**

## 15. EDUCATIONAL QUALIFICATIONS

1991 Census Questions

## 15.1 Background

A variety of layout changes were tested for the Qualification Indicator question (i.e. the first of the Qualification questions), primarily involving the response categories, so that the question met the requirements for level of attainment for the Australian Bureau of Statistics' Classification of Qualifications (ABSCQ).

## 15.2 Test Results

### 15.2.1 Response categories

The first response categories for the Qualification Indicator question were modified and trialed in August 1993. Form 3 was the control form and Form 4 included the experimental questions. 'Still at primary or secondary school' was excluded and the 'Trade certificate/ticket' response was replaced with 'Apprenticeship/trade certificate' on Form 4.

It was not possible to determine whether the new question with the altered response categories performed better than the 1991 Census-style questions, as analysis did not reveal a definite trend. However, detailed analysis by Classification and Standards Section of responses to the Qualifications question on Forms 3 and 4 showed that the new Qualification Indicator question on Form 4 was more effective. The question was retested in March 1994, using Forms 6 and 7.

Form 6 used questions similar to those on the 1991 Census form, but Form 7 included the experimental questions. All of the questions on Form 7 asked about the person's highest qualification completed (instead of qualification obtained). Response categories for Qualification Indicator were reduced to 'No', 'Yes, apprenticeship/trade certificate' and 'Yes, other qualification'. Updated examples were provided for the Qualification Level: 'For example, trade certificate, bachelor degree, associate diploma, doctorate'.

The rate of non-response for the March 1994 test was slightly higher for the new question design on Form 7 (10.6%) than the old one on Form 6 (9.5%), and commission error was marginally lower at 2.1% for the new design, compared to 2.6% for the other format. Response distributions were broadly similar.

The effect on all of the Qualification questions of removing 'Still studying for first qualification' on Form 7 was evaluated. Non-response for the Qualification Indicator was 8.7% for the old design on Form 6 and 12.3% for the revised questions, and response distributions were similar for both, as can be seen in Table 15.1.

**TABLE 15.1: DISTRIBUTION OF RESPONSES TO THE QUALIFICATION QUESTION**

<i>Qualification</i>	<i>Form 6</i>		<i>Form 7</i>	
	<i>Number</i>	<i>Percent</i>	<i>Number</i>	<i>Percent</i>
No qualification	527	50.8	497	50.9
Still at primary or secondary school	38	3.7	n.a.	n.a.
Studying for first qualification	49	4.7	n.a.	n.a.
Trade certificate/apprenticeship	138	13.3	140	14.3
Other qualification	195	18.8	219	22.4
Not stated	90	8.7	120	12.3
<b>Total</b>	<b>1,307</b>	<b>100.0</b>	<b>976</b>	<b>100.0</b>

n.a. Not applicable.

Analysis of non-response to the second question on Form 7, Name of Qualification, showed that 10.0% of respondents who marked 'Apprenticeship/trade certificate' for the first question did not name their qualification in the second, compared to 1.4% for Form 6. The wording of the 'Apprenticeship/trade certificate' category was surmised to be the cause of the high non-response to Qualification Name for those who marked this category. Respondents still doing their apprenticeship may have marked this category and when asked to provide further details on their completed qualification, realised that the question was not applicable to them.

Telephone follow-up showed that three of the 23 people interviewed (13%) who indicated on Form 7 that they had completed a qualification were still studying for their first qualification. These people should have come within the 'Still studying' category had it been included, although it is not possible to determine if they would have marked this category if it had been on the form.

All three of the Qualification questions on Form 7 had consistently higher non-response rates than the questions on the other form type.

Response categories were again altered and trialed in the August 1994 test. 'Still studying for first qualification' was added and 'Apprenticeship/trade certificate' was swapped to 'Trade certificate/apprenticeship' on Form 10. Form 9 contained the 1991 Census qualification questions.

**TABLE 15.2: DISTRIBUTION OF RESPONSES TO QUALIFICATION LEVEL FOR PEOPLE WHO HAVE COMPLETED A TRADE CERTIFICATE, AUGUST 1994 TEST**

<i>Qualification level</i>	<i>Form 9</i>		<i>Form 10</i>	
	<i>Number</i>	<i>Percent</i>	<i>Number</i>	<i>Percent</i>
No additional information	142	10.6	136	10.8
Higher degree	—	—	5	0.4
Postgraduate diploma	—	—	3	0.2
Bachelor degree	15	1.1	9	0.7
Undergraduate diploma	51	3.8	40	3.2
Associate diploma	34	2.5	23	1.8
Skilled vocational	865	64.6	825	65.7
Basic vocational	110	8.2	90	7.2
Level inadequately described	14	1.0	9	0.7
Year 12, matriculation, etc.	12	0.9	11	0.9
Not stated	96	7.2	105	8.4
<b>Total</b>	<b>1,339</b>	<b>100.0</b>	<b>1,256</b>	<b>100.0</b>

Response distributions by form type for those who indicated they had completed a trade certificate are outlined in Table 15.2 above. Analysis shows that changing the response category from 'Yes, trade certificate or ticket' to 'Yes, trade certificate/apprenticeship' had a minor effect on response for each category for the Qualification Level question, as distributions were similar for both form types.

### 15.2.2 Non-response

In the August 1994 test, a response pattern to the first two Qualification questions by certain respondents was discovered. Regardless of the form (and therefore question) type, respondents who marked 'Yes, trade certificate...' had a statistically significant higher likelihood of not answering the following Qualification Level question, compared to those with 'non-trade' responses who did not answer Qualification Level. No reason for this phenomenon was discovered. Data from the August 1995 Dress Rehearsal did not show this response pattern.

## 15.3 Changes Made For The 1996 Census

For the 1996 Qualification questions minor wording changes were made by using completed instead of obtained, and highest qualification was utilised in all questions, to remind respondents to answer for their highest qualification acquired. Response categories for Qualification Indicator were altered by deleting 'Still at primary or secondary school' and modifying 'Yes, trade certificate or ticket' to 'Yes, trade certificate/apprenticeship', the latter aligning the question more closely to the ABSCQ level of attainment.

Different examples are used for Name of Qualification in 1996 as some of the examples used on the 1991 form are now outdated, e.g. a Registered Nursing Certificate can no longer be obtained, as nursing qualifications are now acquired from universities instead of hospitals. 'For example, trade certificate, bachelor degree, associate diploma, doctorate' is now used instead of 'For example, Registered Nursing Certificate, Bricklaying Trade Certificate'.

## 15.4 Future Evaluation

The quality of 1996 Census responses and results obtained will be monitored. For both form types in the August 1994 test, respondents who marked 'Yes, trade certificate...' had a statistically significant higher likelihood of not answering the Qualification Level question which followed. Although Dress Rehearsal data did not show this pattern, the issue still needs to be investigated in the Census proper. Any form design issues arising from this investigation can then be examined.

## 16. INCOME

### 1991 Census Question

29 What is the gross income (including pensions and allowances) that the person usually receives each week from all sources?

Count all income including:  
 family allowance  
 family allowance supplement  
 pensions  
 unemployment benefits  
 student allowance  
 maintenance  
 (child support)  
 worker's compensation  
 superannuation  
 wages  
 salary  
 overtime  
 dividends  
 rents received  
 business or farm income  
 (less expenses of operation)  
 interest received.

Do not deduct:  
 tax  
 superannuation  
 health insurance.

- ( ) Less than \$58 per week  
(Less than \$3,001 per year)
- ( ) \$58 to \$96 per week  
(\$3,001 to \$5,000 per year)
- ( ) \$97 to \$154 per week  
(\$5,001 to \$8,000 per year)
- ( ) \$155 to \$230 per week  
(\$8,001 to \$12,000 per year)
- ( ) \$231 to \$308 per week  
(\$12,001 to \$16,000 per year)
- ( ) \$309 to \$385 per week  
(\$16,001 to \$20,000 per year)
- ( ) \$386 to \$481 per week  
(\$20,001 to \$25,000 per year)
- ( ) \$482 to \$577 per week  
(\$25,001 to \$30,000 per year)
- ( ) \$578 to \$673 per week  
(\$30,001 to \$35,000 per year)
- ( ) \$674 to \$769 per week  
(\$35,001 to \$40,000 per year)
- ( ) \$770 to \$961 per week  
(\$40,001 to \$50,000 per year)
- ( ) \$962 to \$1,154 per week  
(\$50,001 to \$60,000 per year)
- ( ) \$1,155 to \$1,346 per week  
(\$60,001 to \$70,000 per year)
- ( ) More than \$1,347 per week  
(More than \$70,000 per year)

### 16.1 Background

Various 1991 Census evaluation reports recommended including a 'no income' category. Income and Expenditure Section suggested capturing positive, nil and negative income. Therefore, 'nil' and 'negative' response categories were tested in the 1996 Census cycle.

A write-in question was tested, as part of Optical Character Recognition (OCR) testing.

In the later tests, the position of Income was tested to see if placing it after the Labour Force questions overcame space restrictions on the proposed 1996 questionnaire without adversely affecting responses to Income. It was feared that being after the Labour Force questions, the probability that only income relating to a job being reported would be increased, or respondents without jobs may not respond at all.

### 16.2 Test Results

#### 16.2.1 'Nil' and 'Negative' response categories

The March 1993 test was the first test of changes to the response categories used in the 1991 Census. Form 1 remained the same as 1991, but Form 2 response categories changed from ascending to descending order and also included 'nil' and 'negative' categories.

The non-response rate for Form 2 (7.9%) was lower than for Form 1 (9.1%), but the difference of 1.2% was not statistically significant.

Income distribution from the 1990 Income Distribution Survey for the test areas was compared with data from the test and the response distributions were found to be very similar.

**TABLE 16.1: PROPORTION OF RESPONSES TO THE 'LESS THAN \$58', 'NIL' AND 'NEGATIVE' CATEGORIES, MARCH 1993 TEST, 1991 CENSUS AND 1990 INCOME DISTRIBUTION SURVEY**  
(percent)

Response categories	March 1993		1991	1990 Income
	Form 1	Form 2	Census <sup>(a)</sup>	Survey <sup>(b)</sup>
'Nil' & 'Negative'	n.a.	6.3	n.a.	3.5
'Less than \$58'	9.4	4.7	11.0	7.0

Total combined	9.4	10.9	11.0	10.5
n.a. Not applicable.				
(a) 1991 Census data for test CD's.				
(b) 1990 Income Distribution Survey data for Adelaide.				

Table 16.1 shows that for respondents who would otherwise have marked the 'less than \$58' category, 57% will mark either the 'nil' or 'negative' boxes if provided. However, when the 'less than \$58', 'nil' and 'negative' categories are combined, the results appear comparable between the test, 1991 Census and 1990 Income Distribution Survey (IDS).

The income distributions, as a whole, were similar for both form types, with neither descending (Form 2) or ascending (Form 1) order making any great difference to response level or accuracy. It was therefore recommended that the question with ranges in descending order be adopted.

The response categories were again analysed in the August 1993 test. The consistency between Form 3 and 1991 Census income distributions indicated ranges in descending order does not have any large adverse effects on data quality. There was however, some variability for lower incomes, in particular a marked increase in the proportion of responses to the combined 'Less than \$58' category between Form 3 and the Census. Additionally, there was a similar discrepancy between Form 3 and IDS results for the combined category. However, the proportion of responses to the 'Less than \$58' combined category on Form 4 is very similar to that found on Form 3. Specifically, the sub-components of the combined category (ie. 'nil', 'negative' and '\$1-\$58') show relative consistency between Forms 3 and 4 with both being much higher than results from the 1990 IDS and March 1993 test results (which collected similar income information).

Finally, there was some variance between responses to 'nil' and 'negative' income for persons either unemployed or not in the labour force. In particular, there seemed to be a greater tendency for persons in these groups to respond to nil income on Form 4 and negative income on Form 3. Additionally, 10 of those unemployed on Form 3 (6.3% of the total number unemployed) responded to the negative income category. It is possible that unemployed persons who are living off their savings and are not receiving unemployment benefits could have nil income but may mistakenly respond to negative income.

In general, the August 1993 test confirmed the recommendation of the March 1993 test to adopt 'nil' and 'negative' categories for the Income question, as they did not impact on response distributions.

### 16.2.2 Write-in question

**What is the gross income (including pensions and allowances) that the person usually receives each week from all sources?**

\$ \_\_\_\_\_ per week

or

\$ \_\_\_\_\_ per year

- **Count all income including:**  
**family allowance, family allowance supplement, pensions, unemployment benefits, student allowance, maintenance (child support), workers' compensation, superannuation, wages, salary, overtime, dividends, rents received, business or farm income (less expenses of operation) and interest received.**
- **Do not deduct: tax, superannuation or health insurance.**

**Nil income**

A 'write-in' income question was first tested in July 1992, as part of Optical Character Recognition (OCR) testing. (See Chapter 36 for further information on OCR testing.) It resulted in a significantly higher non-response rate of 14.3% compared to the range response question (11.7%). The response distributions of the two forms were also found to be significantly different.

**Further analysis of the data discovered that respondents tended to round-off their response in the write-in question. It was also found that many more people stated their weekly income than their annual income.**

**Cognitive studies conducted in March 1992 found that participants endorsed the 1991 Census range question over the direct write-in question principally due to privacy reasons, or because 'it was too difficult to work out an exact amount'.**

It was further tested in the August 1993 test, where the objective was to assess respondent reaction to a write-in income question (Form 4) as opposed to ranges in descending order (Form 3). The Form 3 question was a range question similar to that used in the 1991 Census, the exception being the ranges were placed in descending as opposed to ascending order allowing the inclusion of 'nil' and 'negative' categories.

**The Form 3 question recorded a similar non-response rate (11.1%) to that found for the 1991 Census question for the test area (10.9%). The non-response rate for Form 4 (17.4%) was 6.3 percent higher than that found on Form 3, a very high and statistically significant increase in non-response.**

Table 16.2 shows the distributions of stated responses for both forms, 1991 Census results for the test area and 1990 Household Expenditure Survey data for Melbourne.

**TABLE 16.2: INCOME DISTRIBUTION, AUGUST 1993 TEST, 1991 CENSUS AND 1990 HOUSEHOLD EXPENDITURE SURVEY**

<i>Income</i>	<i>Form Type 3</i>		<i>Form Type 4</i>		<i>1991 Census<sup>(a)</sup></i>		<i>1990 HES</i>	
	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>
Less than \$58 <sup>(b)</sup>	298	16.3	268	16.1	494	11.8	224,260	10.4
\$58-\$96	66	3.6	53	3.2	235	5.6	82,410	3.8
\$97-\$154	210	11.5	186	11.2	511	12.2	302,074	14.0
\$155-\$230	202	11.1	167	10.0	351	8.4	241,722	11.2
\$231-\$308	167	9.1	160	9.6	426	10.2	164,591	7.6
\$309-\$385	157	8.6	98	5.9	358	8.6	171,956	8.0
\$386-\$481	195	10.7	199	12.0	492	11.8	246,157	11.4
\$482-\$577	150	8.2	151	9.1	401	9.6	207,911	9.6
\$578-\$673	112	6.1	106	6.4	257	6.2	165,702	7.7
\$674-\$769	85	4.7	84	5.0	209	5.0	101,505	4.7
\$770-\$961	84	4.6	106	6.4	202	4.8	125,543	5.8
\$962-\$1,154	43	2.4	37	2.2	99	2.4	52,781	2.4
\$1,155-\$1,346	18	1.0	9	0.5	54	1.3	25,254	1.2
Greater than \$1,346	39	2.1	41	2.5	89	2.1	46,275	2.1
<b>Total<sup>(c)</sup></b>	<b>1,826</b>	<b>100.0</b>	<b>1,665</b>	<b>100.0</b>	<b>4,178</b>	<b>100.0</b>	<b>2,158,142</b>	<b>100.0</b>

(a) 1991 Census data for test CD's.

(b) For Form 3 and Form 4 'less than \$58' includes responses to 'nil income' and 'negative income'.

(c) Some totals do not add to 100 per cent due to rounding.

Cognitive studies held in June 1993 testing a write-in income question found that many participants preferred a range question as opposed to an 'exact answer' due to the sensitive nature of the question and the difficulties for some persons to give such an answer (eg. elderly pensioners, persons from an ethnic background, employed people on fluctuating or non-usual incomes). One person's response was if a write-in question was asked in the 1996 Census, 'I would leave the answer blank' due to sensitivity. This would indicate that even though a write-in question elicits a more precise answer it results in poorer data quality as a result of higher non-response.

In light of test results and cognitive studies, the recommendation was to continue refining a range income question in descending order to be used for the 1996 Census avoiding any further testing of a write-in income question.

### *16.2.3 Position of income question on the form*

The position of the Income question on the form, particularly in relation to the labour force questions, was first tested in the March 1994 test. Identical 'range' questions were used on both forms, the same as tested in previous tests, however they were in different positions on each form. For Form 6, income was positioned before the labour force questions. For Form 7, it was positioned directly after the labour force questions. The change in position was due to space restrictions on Form 7.

Form 6 had a lower non-response rate (8.4%) than Form 7 (10.2%), however this was not a significant difference. Examination of the distribution of responses for both forms indicated that the lower income ranges (including 'nil') tended to have a lower proportion of the distribution for Form 7 than for Form 6 (see Table 16.3). This, and the higher non-response rate, indicate that respondents with zero or low incomes were less likely to answer Income on Form 7.

**TABLE 16.3: INCOME DISTRIBUTION, MARCH 1994 TEST AND 1991 CENSUS<sup>(a)</sup>**

(percent)				
	March 1994		1991	% Diff.
Income	Form 6	Form 7	Census	F6-F7
More than \$1,346	1.9	1.3	2.5	0.7
\$1,155 - \$1,346	0.3	0.8	0.3	-0.5
\$962 - \$1,154	1.5	2.0	1.7	-0.4
\$770 - \$961	3.0	3.7	3.0	-0.7
\$674 - \$769	3.5	3.9	4.3	-0.5
\$578 - \$673	4.6	5.9	5.1	-1.2
\$482 - \$577	7.1	7.4	6.7	-0.2
\$386 - \$481	8.3	8.9	9.7	-0.6
\$309 - \$385	6.2	4.4	7.5	1.8
\$231 - \$308	8.3	9.6	8.1	-1.2
\$155 - \$230	21.8	21.7	16.5	0.2
\$97 - \$154	21.3	20.5	23.1	0.8
\$58 - \$96	2.7	3.9	4.1	-1.2
\$1 - \$57 <sup>(b)</sup>	3.1	1.7	7.5	1.4
Nil income	5.9	4.0	n.a.	1.9
Negative income	0.2	0.3	n.a.	-0.1
Total	100.0	100.0	100.0	0.0

n.a. Not applicable

(a) Excluding persons aged under 15 years

(b) In 1991 the response category was 'less than \$58'.

Analysis of non-response to income for people who responded to the full-time/part-time job question further highlights the disparity between the higher and lower income ranges response rates (see Table 16.4).

**TABLE 16.4: NON-RESPONSE TO INCOME BY FULL-TIME/PART-TIME JOB<sup>(a)</sup>**

<i>Full-time/part-time job</i>	<i>(percent)</i>	
	<i>Form 6</i>	<i>Form 7</i>
'Did not have a job'	6.1	10.9
'Worked for payment or profit' <sup>(b)</sup>	5.5	4.9

(a) Excluding persons aged under 15 years.

(b) Also includes responses to the category 'absent on holidays, on sick leave on strike or temporarily stood down'.

These results strongly indicate that the position of Income on Form 7 resulted in a higher non-response for people who are unemployed or not in the labour force. Given that Income is positioned after the labour force questions on Form 7, it is likely that response to Income has been affected by the labour force questions. There could be a number of reasons for the higher non-response for people who are unemployed or not in the labour force: some may think the question only applies to wages and salaries, and therefore these people have thought the question is not applicable to them; or they have missed the sequencing instruction and thought income was part of the labour force questions which are not relevant to them.

During telephone follow-up, nine respondents (from both form types) were interviewed who did not respond to the income question. Telephone follow-up suggests that there is in fact no single major reason for non-response, but instead there were a number of different reasons why people did not respond, such as not knowing their income, not receiving any income or missing the question altogether.

The recommendation from this test was to re-test the effect of position on the Income question in the August 1994 test and to test the effect of position for Income on the labour force questions.

In August 1994, identical questions were used on both forms, however they were in different positions on each form. For Form 9, income was positioned immediately before the labour force questions. For Form 10, it was positioned directly after the labour force questions.

Non-response rates were high for both forms. As was the case in the March 1994 test, the experimental form (Form 10) had a higher non-response rate (10.7%) than the control form (8.5%).

The distribution of responses is broadly similar for both form types. However, looking at the difference between the two forms for each response shows a striking pattern. Form 10 shows a higher proportion of responses than Form 9 for 6 of the 8 highest categories and a lower proportion for each of the 8 lowest categories.

**TABLE 16.5: COMPARISON OF HIGH AND LOW INCOME CATEGORIES<sup>(a)</sup>, AUGUST 1994 TEST**

<i>Income</i>	<i>Form 9</i>		<i>Form 10</i>		<i>1991</i>	
	<i>Number</i>	<i>Percent</i>	<i>Number</i>	<i>Percent</i>	<i>Number</i>	<i>Percent</i>
8 Highest categories	3,482	35.5	3,499	36.5	7,675	36.3
8 Lowest categories	6,370	65.0	5,754	60.0	13,486	63.7

<b>Total</b>	<b>9,805</b>	<b>100.0</b>	<b>9,586</b>	<b>100.0</b>	<b>22,833</b>	<b>100.0</b>
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(a) Excludes not stated.

Performing a chi-squared analysis comparing responses to the Income question for the 1991 Census and this test showed that both forms give a significantly different result to the 1991 Census. Given that three years of (relatively) mild inflation have passed, it is not surprising - perhaps even expected - that there is an increase in the proportion of people showing incomes in the higher categories. For Form 9 there was a more mixed pattern of distributions at the lower levels, with mild increases and decreases, and this could well reflect people on indexed pensions and benefits shifting categories. However Form 10 showed more movements into the higher income categories.

Twenty-eight respondents were contacted for telephone follow-up interviews to determine why they had not answered the Income question. Although there were a number of different reasons why people did not respond, telephone follow-up suggested that privacy concerns were the major reason for non-response to the Income question.

**TABLE 16.6: NON-RESPONSE TO INCOME BY FULL-TIME/PART-TIME JOB,  
AUGUST 1994 TEST  
(excluding persons aged under 15 years)**

<i>Full-time/part-time job</i>	<i>Form 9</i>		<i>Form 10</i>	
	<i>NS/Income</i>	<i>Total responses</i>	<i>NS/Income</i>	<i>Total responses</i>
Did not have a job	180	3,474	476	3,598
Worked for payment or profit <sup>(a)</sup>	227	5,544	244	5,359
Unpaid work in a family business	12	131	17	131
Other unpaid work	5	71	8	84
Not stated	318	591	281	414
<b>Total</b>	<b>n.a.</b>	<b>9,811</b>	<b>n.a.</b>	<b>9,586</b>

n.a. Not applicable

(a) Also includes responses to the category 'absent on holidays, on sick leave on strike or temporarily stood down'.

It is clear from Table 16.6 that non-response was similar for people whose response to the core labour force question indicated that they were employed, but Form 9 performed far better for those people who did not have a job. Again, this confirms that positioning the income question after the labour force questions will encourage non-response by people without employment-based income.

It seems clear that positioning the income question as one of the last in the form would have serious consequences for the quality of the data produced. The non-response rate increases, particularly for unemployed people, and as a result of this differential increase in non-response the distribution of income is significantly biased.

### 16.3 Changes Made

Changing from ascending to descending response categories, and the inclusion of the 'nil' and 'negative' categories, did not adversely affect response distributions. Therefore the 1996 income question will include these changes.

However, testing of a write-in question found that respondents were concerned for their privacy, and the sensitivity of asking for an exact amount resulted in a high non-response rate for this type of question. Therefore, the 1996 form retains a question with range response categories.

For the 1996 Census, the income ranges were updated to incorporate standard income categories. The instructions relating to government benefits were also updated.

Testing of the position of the income question in relation to the labour force questions found a higher non-response rate for income when it followed the labour force questions. Therefore it remains preceding these questions for 1996.

### 16.4 Future Evaluation

Monitor income distributions in the 1996 Census to ensure the addition of 'nil' and 'negative' response categories does not affect data quality, as there is some evidence that people misinterpret 'negative' in particular.

The ABS standard suggests that 2001 Census design for Income will be a write-in question. On the evidence to date, much further testing on this issue will need to be done before this could occur.

## 17. ISSUE

### 1986 Census Question

25 For each female, how many babies has she ever had?

- Do not include still-births.
- If none, tick box 21

21 ( ).....None

..... Total

.....Now living

### 17.1 Background

A question on the number of children ever born was asked in nearly all Australian Censuses up until and including 1986. The question was not included in the 1991 Census because it was not considered necessary to collect the data every five years. In the 1996 Census, Question 28 (last question on the page) is asked to gather information about the number of children ever born for each female aged 15 years or more. This question was tested on March 1993, August 1993, March 1994 and August 1994 to evaluate respondents' reaction because of its particular sensitivity, to test the effect of the change in position of this question and to monitor the effect of these changes on the response distribution.

### 17.2 Test Results

#### 17.2.1 March 1993

*Forms 1 & 2*

6 For each female, how many babies has she ever had?

- Do not include still-births.
- Mark one box only

( ) None. Now go to 8

( ) One

( ) Two

( ) Three

( ) Four or more

7 How many of the babies are still alive?

- Mark one box only

( ) All

( ) None

( ) One

( ) Two

( ) Three

( ) Four or more

In March 1993, identical issue questions were tested on both Forms 1 and 2. Both forms also asked another question immediately following, 'How many of the babies are still alive?' On both form types, the questions appeared at the bottom of the first page and was asked of all females.

In relation to the first part of the Issue question on Forms 1 and 2 (ie. 'Number of babies born'), there was a high not-stated rate (18.3%) for females under 15 years. Possibly, the under 15 years age group felt the question did not apply to them. For the 15 to 20 year olds the high non-response rate of 12.9% was possibly due to a reluctance to respond because they felt the question was sensitive. On the other hand, non-response was much lower for females aged 21 to 46 years for whom the information is most relevant (2.9%). However the higher non-response for the younger age groups probably did not have a great effect on data quality as the answers that were supplied for this age group were invariably 'none' to number of babies born. The overall non-response rate for the first part of the March 1993 test question was low (4.9%) and was lower than that obtained from the 1986 Census (7.8% for South Australia).

In relation to the number of babies still alive question in the same test, the non-response of 12.6%, which was almost double that of the question preceding it and relatively much higher than that of the surrounding variables on the form. This could be the result of the question appearing irrelevant or unnecessary either because it was not noticed, because respondents felt it was part of the same question or because it was thought to be a duplication. In this context, previous Census tests have shown that two-part questions frequently result in higher non-response to one or both parts than that obtained from separate questions.

Cognitive studies conducted in February 1993 indicated that even though some community sensitivity existed for this particular question, it was very unlikely to affect the level of accuracy. Further cognitive studies in both February and June 1993 found there was little negative reaction to the question asked for females under 15 years.

After receiving submissions in response to ABS views, only the 'Total number of children ever born' was considered justified for further testing. There was insufficient interest expressed in Census data on 'Number still living', and as a result it was removed for subsequent tests.

### 17.2.2 August 1993

In the August 1993 test, only the first of the two issue questions tested in March 1993, was incorporated on Form 4. Both questions were not included on Form 3. Data for Form 4, was compared with March 1993 test results and 1986 Census data for Victoria.

Non-response was 8.2% for Form 4, higher than Forms 1 and 2 with 5% and 7.9% respectively, but 1986 Census data for the state of Victoria had the highest non-response rate of 11.1%. It should be noted that the 1986 question was asked of females over 15 years, whereas on Forms 1, 2 and 4 the question was asked of all females, regardless of their age.

The high non-response rate indicated that respondents did not consider the question applicable to girls younger than 15 years. As most answers to this question were 'none' for females less than 15 years, the question appears to have little relevance for that age group. It was therefore recommended that it be included in the 'over 15 years' section of the form because it was not considered appropriate to ask the question for girls younger than 15 years of age.

### 17.2.3 March 1994

The Issue question was again tested on Form 7 but was asked only of females aged 15 years or more. This question was not included on Form 6.

The non-response was 10.5% excluding females under 15 years and all males. This compares with non-response rates of 4.4% in August 1993, 3.9% (Form 1) and 6.0% (Form 2) in March 1993.

The non-response rate increased, in the March 1994 test mainly because the question was asked further into the questionnaire. The position of the question on the page (the last question) would also lead to a higher non-response rate.

The distributions of responses for both August 1993 and March 1994 tests were similar, making allowances for possible geographic variation, particularly for the category 'None'. This indicates that the position of this question in the over 15 years section did not have a detrimental effect on fertility distributions.

### 17.2.4 August 1994

In the August 1994 test, two more response categories (Five and Six or more) were added and tested on Form 10. The extra categories are of particular relevance for the analysis of fertility rates among indigenous women.

The non-response rate for this test was unexpectedly lower than the March 1994 rate, given question wording and position were substantially unchanged for the August 1994 test. The variation might be due to differences between sample size and characteristics. Compared with the rate obtained in the August 1993 test, which had a larger sample size than the March 1994 test, non-response was similar. The slightly higher figure in the August 1994 test may be due to the different positioning.

The question appears to have worked reasonably well in the test and the extra categories provided more detail of how the data skewed toward the higher responses categories, without having any apparent adverse effect on non-response. The distribution of responses was slightly different from the March 1994 results but was similar to that for the August 1993 test.

The percentage distributions for March and August 1994 tests are shown in Table 17.1.

**TABLE 17.1: RESPONSE DISTRIBUTION FOR ISSUE, MARCH 1994 AND AUGUST 1994 TESTS<sup>(a)</sup>**

<i>Number of children</i>	<i>March 1994</i>		<i>1986 Census(c)</i>		<i>August 1994</i>		<i>1986 Census(c)</i>	
	<i>Number</i>	<i>Percent</i>	<i>Number</i>	<i>Percent</i>	<i>Number</i>	<i>Percent</i>	<i>Number</i>	<i>Percent</i>
None	175	37.4	442	39.5	1,319	30.9	3,147	30.6
One	63	13.5	153	13.7	465	10.9	1,232	12.0
Two	108	23.1	225	20.1	1,149	26.9	2,598	25.3
Three	76	16.2	169	15.1	778	18.2	1,861	18.1
Four or more	46	9.8	n.a.	n.a	n.a	n.a	n.a	n.a.
Four	n.a.	n.a.	75	6.7	359	8.4	861	8.4
Five	n.a.	n.a.	32	2.9	110	2.6	318	3.1
Six or more	n.a.	n.a.	23	2.0	84	2.0	256	2.5

<b>Total</b>	<b>468</b>	<b>100.0</b>	<b>1,119</b>	<b>100.0</b>	<b>4,264</b>	<b>100.0</b>	<b>10,273</b>	<b>100.0</b>
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(a) Both test excludes females under 15 years and all males.  
(b) August 1994 test represents data from the data capture stage after adjusting categories by minus one.  
(c) 1986 Census data for test CDs.  
n.a. Not applicable.

Table 17.2 compares the distribution of responses to issue between indigenous and non-indigenous females, aged 15 years and over.

**TABLE 17.2: RESPONSE DISTRIBUTION FOR ISSUE BY ABORIGINALITY, AUGUST 1994 TEST<sup>(a)</sup>**

<i>Number of children<sup>(b)</sup></i>	<i>Indigenous</i>		<i>Non-indigenous</i>	
	<i>Number</i>	<i>Percent</i>	<i>Number</i>	<i>Percent</i>
None	9	21.4	1,310	31.0
One	6	14.3	459	10.9
Two	8	19.0	1,141	27.0
Three	10	23.8	768	18.2
Four	4	9.5	355	8.4
Five	—	—	109	2.6
Six or more	5	11.9	79	1.9
<b>Total</b>	<b>42</b>	<b>100.0</b>	<b>4,221</b>	<b>100.0</b>

(a) Excludes females under 15 years and all males.

(b) Represents data from the data capture stage.

Although the size of the group of indigenous females over 15 years in the test was small, the data suggests a substantial difference between the two distributions. Compared with non-indigenous females, responses to total issue were much more evenly distributed. The analysis was limited by the small data set, however the addition of two more response categories provided an indication that there might be a reasonable concentration of responses (11.9%) in the 'six or more' category.

Further, the August 1994 test suggested that the two additional response categories will provide a more useful and greater level of detail in the data, particularly in the analysis of indigenous groups as no adverse impacts were identified.

### 17.3 Changes Made For The 1996 Census

The 'Number of babies still alive' question was omitted on the basis of its high non-response rate and the possible detrimental effect it may have had on other questions in terms of data quality. As in 1986, the question is only asked of females 15 years and over, because testing showed poor quality data was obtained from females younger than 15 years.

On the 1986 form, women wrote in their answers to the (two-part) question, but in 1996 there will be self coded response categories, ranging from 'None' to 'Six or more'.

### 17.4 Future Evaluation

There might be the possibility that the 'Number still living' question will be required by Demographers for fertility analysis in the future. Further testing will be needed if it is required. If Issue data is only needed every ten years the next time it is collected will be 2006.

## 18. LABOUR FORCE QUESTIONS

### 18.1 Background

The ordering of the labour force questions on the form was trialed in four tests which were conducted in March 1993, August 1993, March 1994 and August 1994. The aim of these tests was to improve the level and accuracy of responses to the labour force questions by changing the order and position of these questions from that used in the 1991 Census. A new question 'Availability to start work' was added in March 1993. In March 1994 three labour force questions, 'Looked for work', 'Availability to start work' and 'Journey to work' were tested and are covered in detail in the following chapters.

### 18.2 Test Results

#### 18.2.1 March 1993

In the March 1993 test Form 2 with the experimental order of questions was tested against Form 1 which used the 1991 Census order. The new question 'Availability to start work' was included on Form 2.

##### Form 1 - Order of Questions

Full/part-time job  
Looked for work  
Job last week (employment status)  
Hours worked  
Occupation  
Tasks/duties  
Employer's trading name  
Employer's address  
Industry of employer  
Method of travel to work

##### Form 2 - Order of Questions

Full/part-time job  
Job last week (employment status)  
Occupation  
Tasks/duties  
Employer's business name  
Employer's address  
Industry of employer  
Hours worked  
Looked for work  
Availability to start work  
Travel to work was not included  
because of space limitations.

**TABLE 18.1: NON-RESPONSE FOR LABOUR FORCE QUESTIONS<sup>(a)</sup>, MARCH 1993 TEST**

	<i>Form 1</i>	<i>Form 2</i>
Full-time/part-time job	5.6	8.1
Looked for work <sup>(b)</sup>	9.6	5.6
Availability to start work <sup>(c)</sup>	n.a.	2.2
Job last week <sup>(d)</sup>	4.7	2.2
Hours worked <sup>(d)</sup>	6.0	2.5
Occupation <sup>(d) (e)</sup>	5.7	0.6
Employers business (Trading) name <sup>(c) (d)</sup>	8.9	1.1
Employers address <sup>(c) (d)</sup>	9.4	2.8
Industry <sup>(c) (d)</sup>	9.6	5.2
Average non-response rate	7.4	3.4
<b>Average commission error rate</b>	<b>9.4</b>	<b>8.0</b>

(a) Excluding persons under 15 years of age.

(b) Persons aged 15 years or more who were not in employment and were either actively looking for work or not looking for work were required to answer this question.

(c) Persons aged 15 years or more who were not in employment and were actively looking for work were required to answer this question.

(d) Employed persons aged 15 years or more.

(e) Usually derived from more than one question. Respondents were only required to complete one question for it to be considered a stated response. CAC coding of responses was not undertaken.

n.a. Not applicable.

As shown in Table 18.1, on average, both non-response and commission error rates were higher on Form 1 than Form 2 except for full time/part time job. The higher commission error rates (response to a question which is not supposed to be answered by the particular respondent) on Form 1 indicated that the sequencing of instructions was more effective on Form 2.

The re-ordering of the employment-related questions on Form 2 improved the accuracy and level of responses to almost all these questions, with the exception of 'Full/Part-time job'. When the variable 'Total employed' was derived in two different ways for two different objectives, the numbers were different and this discrepancy in the data could not be explained. Due to this unexplained response variation, the performance of the full/part-time question was monitored in the August 1993 test, without changing the question.

### 18.2.2 August 1993

In the August 1993 test Form 3 followed the same order as Form 1. Form 4 had slight variations from Form 2.

#### Form 2 - Order of Questions

Full/part-time job  
Job last week (employment status)  
Occupation  
Tasks/duties  
Employer's business name  
Employer's address  
Industry of employer  
Hours worked  
Looked for work  
Availability to start work

#### Form 4 - Order of Questions

Full/part-time job  
Job last week (employment status)  
Occupation  
Tasks/duties  
Employer's business name  
Employer's address  
Industry of employer  
Activity/service provided by the employer  
Hours worked  
Method of travel to work  
Looked for work  
Availability to start work

Response to the 'Employment status' question was similar for the two form types.

Lower non-response rates were obtained for all six labour force questions (eg. occupation, industry) on Form 4 than for those on Form 3 and four of which were statistically significant. However, 'Looked for work' recorded a higher non-response rate for Form 4. So it was decided to retest.

### 18.2.3 August 1994

#### Form 9 - Order of Questions

Similar to Form 1 layout, except hours worked was placed after industry of employer, and looked for work and availability to start work were last.

#### Form 10 - Order of Questions

Same format as Form 4, except activity of employer was deleted.

Forms 9 and 10 were used in the August 1994 test. On Form 9, the labour force questions began half way down the page after the income question and before questions on usual residents temporarily absent. On Form 10 the labour force questions started at the top of a page, after issue and before income.

Form 10 performed significantly better than Form 9 for all labour force questions, including the derivation of labour force status. Table 18.2 shows non-response rates for all labour force questions for the August 1994 test and the March 1994 test. For all questions except availability to start work, non-response was lower on Form 10 than Form 9.

**TABLE 18.2: NON-RESPONSE FOR LABOUR FORCE QUESTIONS<sup>(a)</sup>, MARCH 1994 TEST, AUGUST 1994 TEST AND 1991 CENSUS**  
(per cent)

Question	March 1994 Test		August 1994 Test		1991 Census*
	Form 6	Form 7	Form 9	Form 10	
Full-time/part-time job	4.9	5.7	6.0	4.3	5.9
Job last week	9.2	6.9	11.0	9.3	12.9
Occupation	9.6	5.5	9.2	7.7	5.6
Industry	11.3	7.6	12.8	10.8	5.2
Hours worked	9.4	5.8	3.6	3.2	5.2
Destination	10.9	7.2	14.2	12.3	12.4
Transport to work	9.0	6.1	9.2	7.8	4.6
Looked for work	8.7	8.8	9.0	8.4	13.8
Availability to start work	9.5	10.0	10.1	10.3	n.a.
<b>Labour force status</b>	<b>8.4<sup>(b)</sup></b>	<b>8.2<sup>(b)</sup></b>	<b>4.8</b>	<b>3.8</b>	<b>2.4</b>

(a) Excluding persons under 15 years of age.

(b) Labour force status for the March 1994 test was calculated using a simplified algorithm.

\* 1991 Census, Australia.

n.a. Not applicable.

Following the August 1994 test, the telephone follow-up interviews revealed that the majority of respondents who did not answer the labour force questions were not in the labour force and thought those questions were not applicable for them.

The decision as to the position of the labour force questions must also consider the impact on income data, as the income question would be placed either before (Form 9) or after (Form 10) the labour force questions. The analysis of income data suggested that positioning the income question as one of the last in the form would have serious consequences for the quality of the data produced. The non-response rate increased, particularly for unemployed people, biasing the distribution of responses (see Chapter 16 on Income for more detail).

Although Form 10 performed better in terms of non-response to labour force questions than Form 9, the differences are not statistically significant. For this reason, and because of the effects the Form 10 layout would have on income data, it was decided that the labour force questions should appear after the income question.

### **18.3 Changes Made For The 1996 Census**

Since the re-ordering of the labour force questions improved both the accuracy and level of responses, it was decided to retain Form 9 format for the 1996 Census. It was also decided to place the labour force questions after the income question because of the significant deterioration of income data quality likely to result from placing income after the labour force questions.

### **18.4 Future Evaluation**

Since the sequence of labour force questions plays an important part in the response rates, evaluation has to be focused on performance of sequencing instructions and patterns in non-response rates to establish the most effective sequence as well as to ensure the new order did not create any new problems.

## 19. AVAILABILITY TO START WORK

### 19.1 Background

This question was not included on any census forms prior to 1996. However, an Availability to Start Work question was tested in the February 1989 test prior to the 1991 Census, in an effort to achieve greater comparability between Census and Labour Force Survey data on unemployment. Unfortunately, the test showed unacceptable disturbance to other aspects of Labour Force data and there was no further opportunity to try out alternative designs or layouts before the 1991 Census. It was decided that the feasibility of including such a question should be tested in the lead-up to the 1996 Census.

The aim of including a question about a respondent's availability to start work is to more closely align Census labour force data with that collected by the Labour Force Survey. 'If you had found a job, could you have started work last week?' is asked in the Labour Force Survey to determine whether respondents should be coded as unemployed or not in the labour force, because only those who are looking for work and who are available to start work are coded as unemployed. Survey respondents are also asked why they are unable to start work, but it is not practical to ask this on census forms. Availability to Start Work was trialed in three Census tests.

### 19.2 Test Results

#### 19.2.1 March 1993

*Form 2*

- 37 Was this person available to start work last week?
- ☐ Yes, could have taken a job
  - ☐ No, already had a job to go to
    - ☐ No, temporarily ill or injured
    - ☐ No, other reason

This question was included after the employment-related questions, together with the Looked for Work question on Form 2. It was not included on the control test form.

The low non-response rate of 2.2% indicated the question performed well. A slight drop in the number of people unemployed was recorded with the addition of the question. Two of the 45 respondents who indicated on the form that they were not employed and were looking for work answered that they were not able to start work in the reference week. In the absence of an Availability to Start Work question, these people would have been coded as unemployed. However, the numbers of respondents affected in the test were too small for reliable conclusions to be drawn.

#### 19.2.2 August 1993

A similar question to that used in the March 1993 test was trialed in August 1993. The rate of non-response was 10.1%, much higher than in the previous test. Location of the question may have influenced this result, as for this test Availability to Start Work was the last question on the page, while it was second from the top in the March 1993 test form.

A reduction in the number of unemployed was achieved when the question was taken into consideration. The unemployment rate dropped by 1.1%, comparing favourably with a 1.9% reduction in the August 1993 Labour Force Survey rate measured using this question.

### 19.2.3 March 1994

#### Form 7

40 If the person had found a job, could the person have started work last week?

- ( ) Yes, could have started last week  
 ( ) No, already had a job to go to  
 ( ) No, temporarily ill or injured  
 ( ) No, other reason

Similar questions were asked on Forms 6 and 7, the only differences being the position of the question on the forms and the inclusion of sequencing instructions after the response categories on Form 6. Looked for Work and Availability to Start Work were asked immediately after Full/Part-time Job and before Job Last Week on Form 6, but both questions were placed after all of the employment-related questions on Form 7.

The question worked well, as non-response rates were low for both test forms, 1.3% for Form 7 and 3.1% for Form 6. As can be seen from Table 19.1, response distributions varied, with Form 7 recording more responses of 'Yes, could have started work' and fewer responses of 'No, other reason'.

**TABLE 19.1: DISTRIBUTION OF RESPONSES FOR AVAILABILITY TO START WORK QUESTION<sup>(a)</sup>, AUGUST 1993 AND MARCH 1994 TESTS**  
 (percent)

<i>Availability to start work</i>	<i>August 1993</i>	<i>March 1994</i>	
	<i>Form 4</i>	<i>Form 6</i>	<i>Form 7</i>
Yes, could have started work	89.6	87.1	93.6
No, already had a job to go to	2.2	1.1	1.3
No, temporarily ill or injured	—	3.2	—
No, other reason	8.2	8.6	5.1
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

(a) Excludes 'not stated', persons under 15 years, responses 'worked for payment or profit', 'absent on holidays, sick leave, strike, etc.' or 'unpaid work in family business' to full/part-time job, and 'did not look for work' or 'not stated' to looked for work.

Including Availability to Start Work appeared to match the Census test unemployment rate more closely to the Labour Force Survey rate. Despite the different distribution of responses for the two form types, both produced unemployment and participation rates similar to those for the Labour Force Survey.

Overall, the non-response rates obtained from testing this topic were quite low. The exception occurred in the August 1993 test, but the high non-response rate was probably due mainly to its position on the page, rather than to the actual question format. The addition of Availability to Start Work on the test forms decreased the number of unemployed people in the first two tests, and more closely associated the Census test unemployment rate with the Labour Force Survey rate in the March 1994 test.

### 19.3 Changes Made For The 1996 Census

Availability to Start Work will be included on a Census form for the first time in 1996, positioned after the employment and Looked for Work questions. This more closely aligns Census labour force data with that from the Labour Force Survey.

## 20. HOURS WORKED

### 1991 Census Question

33 In the main job held last week, how many hours did the person work?

- Subtract any time off, add any overtime or extra time worked.

- ( ) None
- ( ) 1-15 hours
- ( ) 16-24 hours
- ( ) 25-34 hours
- ( ) 35-39 hours
- ( ) 40 hours
- ( ) 41-48 hours
- ( ) 49 hours or more

### 20.1 Background

In the 1991 Census, a question asking about the amount of time a respondent spent at work in the reference week referred to the main job only. An ABS standard has been developed for this topic since then, and now the Hours Worked question relates to all jobs. The standard is consistent with the main focus of the Labour Force Survey, which is on hours worked in all jobs.

In March 1993, a question collecting hours worked in all jobs, rather than in the main job was tested in Adelaide. Form 1 used the 1991 Census question, while the new format on Form 2 asked 'Last week, how many hours did the person work in all jobs?'.

### 20.2 Test Results

#### 20.2.1 New format

In the March 1993 test, the rate of non-response was significantly higher for the 1991 Census question, at 6%, compared to the new design which had a rate of 2.5%. Commission error (i.e. people answering the question when they should not) was 21.9% for the old question and only 4.7% for the new one. The most plausible explanation for the good performance of the Form 2 question is that the new order of the employment-related questions on Form 2 improved the response rates for almost all of them, including Hours Worked.

In 1993 Labour Force Survey distributions for the Adelaide metropolitan area were compared with those from both test forms. Like the new question format being trialed, the survey collected hours worked in all jobs. Figure 20.1 indicates that there were some similarities in the distributions, with all peaking at the '35-39 hour' range. However, the new design on Form 2 and the survey data showed a higher proportion of respondents in the '49 hours or more' range than Form 1 and the 1991 Census data, a result that is consistent with the broader concept intended to be measured in the new question.

Distributions are similar for the first five categories for both form types, although Form 1 drops away more sharply than Form 2 for the remaining three categories. The higher rate of respondents answering they worked '49 hours or more' could indicate that people were answering the question for hours worked in all jobs.

**FIGURE 20.1: RESPONSE DISTRIBUTIONS FOR HOURS WORKED, MARCH 1993 TEST,  
1993 LABOUR FORCE SURVEY AND 1991 CENSUS**

The 16-24 and 25-34 hour ranges for the test results were combined to make them more comparable with the survey data.

Cognitive studies found that many people did not answer the exact hours they worked in all jobs last week, but provided the usual number of hours they would work in a week. The report from those studies stated the question 'is not obtaining accurate, reliable or valid information', but this could apply equally to the question asking hours worked in the main job.

However, the new question design appeared to work well, because more respondents marked categories for the longer hours and lower non-response and commission error rates were recorded in the test. This was partly due to the different ordering of the labour force questions on Form 2 (which all performed better than those on Form 1).

### **20.3 Changes Made For The 1996 Census**

Hours Worked was reworded to collect information about hours worked in all jobs rather than in the main job, to conform with the ABS standard and provide greater consistency with the Labour Force Survey approach. The new design performed better in testing than the 1991 question; it had a lower non-response rate and more respondents marked longer hours. The response categories and the instruction are unchanged from 1991.

### **20.4 Future Evaluation**

Evaluation will be conducted on 1996 Census data from this question to determine if respondents answered for *all* jobs rather than main job. (Most Census questions refer to *main* job.) Comparisons will be made with survey data to determine whether people answered the question correctly.

## 21. INDUSTRY

### 1991 Census Question

#### 21.1 Background

Three questions about Industry are asked on the census form. Industry is measured by collecting information about the name and workplace address of the respondent's employer and matching this with precoded information held on the ABS Business Register. Where this is not possible, the response to a question about the kind of industry, business or service carried out by the employer (shown above) is assigned an Australian and New Zealand Standard Industrial Classification (ANZSIC) code, using an index of primary activities.

A new two-stage Industry question format, in place of the 1991 question asking about the kind of industry, business or service carried out by the employer, was trialed in August 1993, and is shown below. The aim of this test was to determine if respondents could reliably self-code their industry to broad ANZSIC categories, allowing for more efficient and accurate Industry coding. Data from the test were analysed by Industry Classification subsection.

#### 21.2 Test Results

*Form 4*

**TABLE 21.1: ANALYSIS OF INDUSTRY QUESTIONS, AUGUST 1993 TEST**

	<i>Form 3</i>		<i>Form 4</i>	
	<i>Number</i>	<i>Percent</i>	<i>Number</i>	<i>Percent</i>
Minimum number of codes found via B.R.140	45	166	46	
Clerical match vs B.R. match	109	78	131	79
Industry questions for all respondents using only question on Form 3	145	47	174	49
Industry questions for all respondents using all available information	266	86	309	87
Total respondents	310	47	356	54
<b>Total number of forms</b>	<b>200</b>	<b>50</b>	<b>200</b>	<b>50</b>

B.R. = Business Register

The business names and addresses provided by respondents were matched against the 'Business Register' (using the Population Census simulator) to obtain an industry code which was used as a control. A Business Register match rate of 45% of Form 3 and 46% of Form 4 responses was obtained. This compares favourably with rates achieved for the 1991 Census. However these results depend upon the quality of answers supplied to the Industry questions and not upon their question design.

Codes of all the responses matched on the Business Register were compared with codes obtained using the Industry question responses (via Population Census Computer Assisted Coding). A 78% match rate of the same industry code was achieved for the Census-style question on Form 3 and 79% for the new format on Form 4, making the results comparable with the match rates achieved for the 1991 Census.

Written responses to the Industry question were analysed, to discover if a defined four-digit code could be obtained. A success rate of 48% was obtained for both form types, using only Industry question responses. When all information relevant to industry coding was considered (i.e. responses to occupation, 'tasks performed' and 'business name'), a four-digit code could be applied in 86% of cases for Form 3 and 87% for Form 4.

### 21.3 Changes Made For The 1996 Census

Although the new two-stage question design performed between 1-2% better in all cases, it is not included on the 1996 Census form because it requires more space on an already crowded form, and it was unlikely that all response categories required would fit onto the one page of the form. Therefore, the 1996 Industry question remains the same as in 1991.

### 21.4 Future Evaluation

The quality of 1996 Census Industry coding will be monitored, with a view to deciding if a change in approach or question design is warranted for 2001.

## 22. JOB LAST WEEK

### 1991 Census Question

32 In the main job held last week,  
was the person:

- Mark one box only.
- If the person had more than one job last week then 'main job' refers to the job in which the person usually works the most hours.

- ( ) A wage or salary earner?
- ( ) Conducting own business  
but not employing others?
- ( ) Conducting own business  
and employing others?
- ( ) A helper not receiving wages or salary?

### 22.1 Background

For the 1996 Census it was decided to test the feasibility of expanding response categories to Job Last Week to identify people with their own businesses which were limited liability companies, who should therefore be classified as wage or salary earners. This modification to the question was aimed at achieving a more accurate Census labour force derivation and aligning it more closely to the derivation used by the Labour Force Survey. Respondents to the Labour Force Survey who indicate they are self-employed are asked if they are conducting their own business in a limited liability company, and if they answer in the affirmative are coded to wage or salary earners rather than to

### 22.2 Test Results

#### 22.2.1 March 1993 test

*Form 2*

29 In the main job held last week,  
was the person:

- Mark one box only.
- If the person had more than one job last week then 'main job' refers to the job in which the person usually works the most hours.

- ( ) A wage or salary earner?
- ( ) A helper not receiving wages or salary?  
Conducting own business in a limited liability company
- ( ) With employees?
- ( ) Without employees?  
Conducting own business which is not a limited liability company
- ( ) With employees?
- ( ) Without employees?

The term 'limited liability' in Job Last Week was first trialed in the March 1993 test. Focus groups conducted prior to this test, which had used the term 'proprietary limited company', found that the term was not understood by the general public, but that most business people who were affected by the concept did understand the term. Therefore, for the March 1993 test, the term was changed to 'limited liability company'.

Non-response was low for both form types and was 4.7% for Form 1 but significantly lower for Form 2, which had the modified question design, at 2.2%.

The new categories on Form 2 were reasonably successful in identifying people working in their own incorporated business who incorrectly classified themselves as 'self-employed'. Using the test results as a guide, approximately 40% of respondents reporting themselves as self-employed would be recoded to wage or salary earners if these categories were used in a census.

These changes may result in overcompensation, as research indicated that some people answer that their business is a limited liability company when it is not. Of course some wage and salary earners may have been prompted to answer as self-employed by the very presence of this category. Test results suggest that overcompensation could be as high as 20% (3 out of 15 responses), but numbers are too small to draw reliable conclusions. Labour Force Survey data from the month before the test indicated that the overcompensation rate for self-employed respondents was 5.6% in Adelaide and 10.4% nationwide.

#### 22.2.2 August 1993 test

In this test, the same question design was tested on Form 4 and a similar analysis conducted. Form 4 recorded a marginally lower non-response rate (4.7%) for the question than Form 3 with 5.5%.

Respondents conducting their own limited liability businesses who classified themselves as self-employed appeared to be identified by this question. Test results indicated that approximately 47% of those people would be recoded to wage or salary earners if the extra category was used in the census, compared to 35% of respondents in a similar

situation in the Labour Force Survey (using August 1993 Survey results for Melbourne, where the test was conducted).

The overcompensation factor mentioned earlier needed to be measured because some respondents in this test wrongly stated their business was a limited liability company. Respondents' understanding of the term 'limited liability' was analysed by matching 'employer's business name' against the Business Register to confirm if the businesses actually were limited liability companies. Four of the thirty-five companies matched against the Business Register were not limited liability companies. Few people with Proprietary Limited companies answered incorrectly.

### *22.2.3 August 1994 test*

In August 1994, to measure the extent of the overcompensation factor, business names and addresses of responses to the category 'conducting own business in a limited liability company' (with and without employees) were checked against the Business Register to determine whether the companies were limited liability companies. A match rate of 28% was achieved, which is lower than the usual rate for census matching against the Register.

As a result of the matching exercise, four conditions were identified:

1. The business name was matched and indicated a limited liability company (13%);
2. The business name was matched and indicated that the company was not a limited liability company (9%);
3. The business name was not matched, but the business name supplied on the form indicated that the company was a limited liability company (15%); and
4. The business name was not matched and the entry on the form did not indicate that it was a limited liability company.

Cases 1 and 3 indicate a correct answer; case 2 is a false positive and case 4 is indeterminate. From this exercise we can conclude that a correct answer is given in 28 per cent of cases and an incorrect answer in 9 per cent of cases (a ratio of 3:1 in favour of correct answers). This appears to indicate that a significant net improvement applies. However, the more correct comparison is to examine the outcome for matched records, where the picture is less favourable: 59 per cent of responses were correct (a ratio of only 1.5:1 in favour of correct responses).

A significant proportion (i.e. two-thirds) of business names and addresses could not be matched to the Business Register, and so it is unclear whether the inclusion of the additional response categories enabled an exact differentiation between employees and employers.

It should be noted that when no match is possible, Labour Force Survey Section assumes that the response given is correct. This assumption is an important point as it can become a self-fulfilling prophecy.

Telephone follow-up interviews were conducted with forty-five respondents who had marked that they conducted their own limited liability company (either with or without employees). Firstly, they were asked whether their responses were correct and that they did conduct their own limited liability company. Thirty-five said yes, 4 said no and 6 said they didn't know or weren't sure.

Regardless of their answers to the first question, respondents were then asked what they understood by the term 'limited liability' company. Only 17 people (37.8%) were able to give a correct definition, and some were very general descriptions such as 'if something went wrong with the business, the bank could not take it all away', 'a proprietary company', 'a corporation' and 'if it's a \$2 company, then liability is \$2'. Some people provided more detailed answers such as 'a company where any debts incurred relate to the company and not to the directors unless a personal guarantee is provided'.

Of greater concern is the proportion of people (62.2%) who had said that they operated a limited liability company and subsequently 'changed their mind' when interviewed or could not say what a limited liability company was. Some of the answers provided include 'a business running at a loss with liability referring to the loss', 'a private company not listed on the Stock Exchange', 'a company run and owned by the manager', 'liable for anyone getting hurt in the workplace' and 'I have public liability insurance and therefore I am in a limited liability company'. A number of people simply said that they had 'no idea' what a limited liability company was.

It is possible that some of these people operate limited liability companies but the person interviewed (e.g. wife) could not say what a limited liability company was.

**It is clear that if the new approach is adopted, with or without an attempt to match to the register, there will be a significant change in the relativities shown by the data. This will make it difficult, if not impossible, to compare 1991 and 1996 results involving status within employment.**

**Given the difficulty in matching records to the Business Register, in order to identify whether respondents were correctly identifying limited liability, it is difficult to determine the quality of the data resulting in the change. Nevertheless, it was decided to make the change for the 1996 Census, on the basis of greater comparability with Labour Force survey data.**

### **22.3 Changes Made For The 1996 Census**

**The response categories identifying people with their own businesses which were limited liability companies are included on the 1996 form, to make status of employment data more conceptually comparable with that from the Labour Force Surveys.**

### **22.4 Future Evaluation**

**In view of the break in time series such a change presents, main users will need to be informed of this decision. The impact of this will be evaluated early in the 1996 evaluation program. Comparison of 1996 data with Labour Force data will need to be evaluated.**

**Future evaluation on respondent understanding of 'limited liability' and its effect on data quality also needs to be done. If any change of approach in the Labour Force Survey occurs, the effect should be monitored by Census.**

## 23. LOOKED FOR WORK

### 1991 Census Question

**31 Did the person actively look for work at any time in the last 4 weeks?**

- Actively looking for work means checking or being registered with the Commonwealth Employment Service; writing, telephoning or applying in person to an employer for work; or advertising for work.

- ( ) No, did not look for work.  
Now go to 40
- ( ) Yes, looked for full-time work. Now go to 40
- ( ) Yes, looked for part-time work. Now go to 40

### 23.1 Background

In the 1991 Census, a large number of people who should not have answered the Looked For Work question did so. Partly, this was because the question could easily be seen as relevant and answerable by employed persons and persons aged less than 15 years. Different placements for this question were tested in the March 1994 test.

On Form 6, the looked for work question appeared towards the bottom of a page, directly following the full-time/part-time job question but before the other employment questions.

On Form 7, the question was in the middle of a page, but at the end of the employment questions. Thus the labour force questions were not sequenced around the Looked for work question in this form.

### 23.2 Test Results

#### Form 6

**30 Did the person actively look for work at any time in the last 4 weeks?**

- Actively looking for work means checking or being registered with the Commonwealth Employment Service; writing, telephoning or applying in person to an employer for work; or advertising for work.

- ( ) No, did not look for work.  
Now go to 40
- ( ) Yes, looked for full-time work.
- ( ) Yes, looked for part-time work.

Non-response was high for both forms (17.4% on Form 6 and 17.6% on Form 7) but was comparable with non-response to the question in the 1991 Census (17.7%).

As shown in Table 23.1 distributions were very similar between the two form types and were comparable with 1991 Census distributions for this question.

**TABLE 23.1: DISTRIBUTION OF RESPONSES FOR THE LOOKED FOR WORK QUESTION  
(15 years and over)**

<i>Looked for work response</i>	<i>Form 6</i>	<i>Form 7</i>	<i>1991 Census<sup>(a)</sup></i>
Did not look for work	65.8	67.6	66.8
Looked for full-time work	11.8	12.5	—
Looked for part-time work	5.0	2.4	—
<i>Looked for work sub-total</i>	<i>16.8</i>	<i>14.9</i>	<i>15.5</i>
Not stated	17.4	17.6	17.7
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

(a) Data is for all of Australia

Generally, the sequencing instructions in responses to the labour force questions on Form 6 were ineffective. 10.6% of respondents aged over 15 years did not follow sequencing instructions from the full-time/part-time work question and answered the looked for work question which was not applicable to them.

Of those respondents who said they worked last week in the full-time/part-time job question on Form 6, 39.6 % of respondents did not answer the job last week question. This suggested that the placement of the looked for work question in the middle of the labour force questions had an adverse effect on overall response to the remainder of these questions and would therefore affect labour force derivations.

For Form 7, 3.8 % of respondents were coded as not applicable. However, as respondents who had completed the labour force questions in Form 7, (since this questions were not sequenced around the Looked for work question, in this form) a further 39.2 % of respondents (for whom this question was technically not applicable) also answered the question.

The results of the test did not indicate that the placement of the looked for work question on the form had an impact on the effectiveness of the question itself. Although non-response was high, the distribution of responses for both form types were similar and were comparable with distributions for the 1991 Census which indicates that the position of the question did not affect the way respondents answered.

However, test results indicated that the placement of the looked for work question within the labour force questions had some effect on the remainder of the labour force questions.

### **23.3 Changes Made For The 1996 Census**

It was decided to place the looked for work and availability to start work questions at the end of the labour force questions for the 1996 Census.

### **23.4 Future Evaluation**

The effect of changes to sequencing needs to be evaluated with particular focus on the effect on the remaining labour force questions and on the derivation of labour force status. The extra burden placed on respondents for whom this question does not apply should also be taken into consideration.

## 24. OCCUPATION

### 1991 Census Question

**35 What are the main tasks that the person himself / herself usually performs in that occupation?**

- Describe as fully as possible.
- For example, recording accounts, preparing drawings for dam construction, cooking hamburgers and chips, fixing cork tiles, operating plastic extruding machine.

### 24.1 Background

The Labour Classifications and Standards subsection recommended changing the examples used in the 1991 Census Occupation question asking about 'main tasks' and including an instruction to managers to state their main activities controlled. This instruction was included in the August 1993 and March 1994 test forms to determine whether it improved the coding of managerial task information, by obtaining more detail about the activities of those the managers supervise. Australian Standard Classification of Occupations (ASCO) classifies managers by the activities of the people they supervise eg. Sales and Marketing Manager or Data Processing Manager, and the aim of the new instruction was to decrease the numbers of respondents providing answers such as 'managing' or 'running a business' because these answers make it difficult to code to ASCO.

### 24.2 Test Results

#### 24.2.1 August 1993

##### *Form 3*

**35 What are the main tasks that the person himself/herself usually performs in that occupation?**

- Describe as fully as possible.
- For example, recording accounts, preparing drawings for dam construction, cooking hamburgers and chips, fixing cork tiles, operating plastic extruding machine.

##### *Form 4*

**33 What are the main tasks that the person himself/herself usually performs in that occupation?**

- Give full details.
- For example, looking after children at day centre, teaching secondary school students, making cakes and pastries, operating wool combing machine.
- For managers, state main activities controlled.

For this test, a new instruction for managers was added to Form 4. The effectiveness of the instruction was evaluated by conducting telephone follow-up interviews of respondents who answered 'manager' to the first occupation question (Question 33) on Form 4. These people were asked if they understood the meaning of 'Main activities controlled' and their answers were recorded. Labour Classifications and Standards then coded the 34 responses supplied at follow-up interview.

The results of Labour Classifications and Standards' investigation were ambiguous, as 22 of the interviewees thought the instruction meant what tasks they did, as opposed to the activities they controlled. It was not clear if they understood the instruction and no further detail was available, so the exercise could not determine whether a majority of managers understood the new instruction.

#### 24.2.2 March 1994

The same instruction was retested in the March 1994 test. Telephone follow-up was conducted and a small number of managers were asked a series of questions about their managerial tasks. Results from the interviews indicated

that approximately half of the managers stated the activities of the staff they controlled and half did not, and that the instruction was followed correctly by those who read it.

### **24.3 Changes Made For The 1996 Census**

The instructions have been altered for the 1996 question and are similar for those listed on Form 4, although some examples listed are different. The instruction for managers have been introduced for the 1996 Census. Managers are asked to state 'main activities managed' instead of 'controlled' in view of getting a detailed response for better coding.

### **24.4 Future Evaluation**

Since smaller number of sample sizes caused the ambiguous results, it is important to look further at 1996 Census data and possibly retest for the 2001 Census.

## 25. LANGUAGE

### 25.1 Background

Staff at the 1991 Data Processing Centre found that a proportion of respondents were providing more than one response to the language question. Coders were selecting the first response given, and as a result the major language could be wrongly represented. As a response to this perceived problem, an instruction directing people to indicate the language spoken most often when more than one language was spoken at home, was trialed in the March and August 1994 tests.

The instruction was aimed at reducing the incidence of multiple answers by respondents who spoke two or more languages at home. Two different questions were tested, the one on Form 6 being similar to that used in the 1991 Census and the other, on Form 7, included the new instruction.

### 25.2 Test Results

#### 25.2.1 March 1994

*Form 7*

18 Does the person speak a language  
other than English at home?

- If more than one, indicate the  
one that is spoken most often

( ) No, English only >Go to 20

( ) Yes, Italian

( ) Yes, Greek

( ) Yes, Cantonese

( ) Yes, Mandarin

( ) Yes, Arabic

( ) Yes, German

( ) Yes, other - please specify

**TABLE 25.1: RESPONSE DISTRIBUTIONS FOR LANGUAGE, MARCH 1994 TEST**  
(percent)

<i>Language</i>	<i>Form 6</i>	<i>Form 7</i>
English	92.9	93.7
Italian	0.6	1.1
Greek	1.6	1.4
Cantonese	0.2	0.2
Mandarin	0.3	—
Arabic	0.3	—
German	0.3	0.7
Other	3.7	2.9
<b>Total</b>	<b>100.0</b>	<b>100.0</b>

It was difficult to gauge the effectiveness of the new instruction used on Form 7, as the distribution of responses was very similar for both questions, as can be seen from the table above. Both questions recorded few multiple marks from respondents and there was little difference in the non-response rate (2.0% for Form 6 and 2.8% for Form 7).

#### 25.2.2 August 1994

The instruction was retested in August 1994 with particular reference to its effect on the number of multiple marks recorded by respondents. Form 9 included the 1991 Census-style question and the new format was on Form 10.

The non-response rate was low and similar to that for the 1991 Census, with only a 0.2% difference between the two form types. Response distributions for the test questions were exactly the same and very similar for the 1991 Census results, with the test forms showing a slightly higher proportion of 'Other' responses.

The old question format recorded a multiple answer rate of 0.8%, but the new design had a lower rate of 0.3%, and this difference is statistically significant. As the position of the questions on the page and the question order were the same for both, the instruction appears to be the only reason for the fall in the number of multiple marks for the new design.

### 25.3 Changes Made For The 1996 Census

The instruction trialed in the March and August 1994 tests was included in the 1996 question because it was shown to reduce the incidence of people marking multiple response categories. The English category was simplified from 'No, speaks only English' to 'No, English only'.

As for the 1991 question, the six most common language responses from the previous Census are again listed on the 1996 form, generally in declining order of importance. The exception is Mandarin, which is included after Cantonese in order to obtain accurate data, as Mandarin speakers might mark Cantonese if Mandarin is not listed. The positions of the Arabic and German categories were swapped, as more people marked Arabic than German in the 1991 Census.

## 26. MARITAL STATUS

### 1991 Census Question

6 What is each person's present marital status? ( ) Never married

- ( ) Married
- ( ) Separated but not divorced
- ( ) Divorced
- ( ) Widowed

### Form 4

What is each person's present marital status?

- ( ) Never married
- ( ) Widowed
- ( ) Divorced
- ( ) Separated but not divorced
- ( ) Married

### 26.1 Background

The marital status question response categories were re-ordered as a result of changes to the ABS standard. The changes were made to discourage respondents from marking the 'married' category when they were separated or divorced. It was suspected that respondents incorrectly marked 'married' because married is one of the first response categories and respondents are more pre-disposed to not read further down the list, or because they may feel that being separated or divorced carries a social stigma, and a list of possible responses that places these categories below married may reinforce this stigma.

### 26.2 Test Results

This topic was tested only once, in August 1993. The Form 3 and 1991 Census questions on Marital Status were identical in terms of question format. In comparison, the Form 4 question included a re-ordering of Marital Status response categories and is positioned further into the form on page six.

For the 1991 Census, a response was imputed if the respondent failed to answer the marital status question, therefore there is no residual non-response for this question. An imputation rate is not available for the test areas in the 1991 Census. However, the 1991 Census imputation rate for Victoria was 6.6 per cent and 6.9 per cent for Australia. In comparison, Form 3 recorded a much lower non-response rate for the test areas of 3.4 per cent, 0.6 per cent lower than that found on Form 4 (4.0%). The latter is not a statistically significant difference.

The traditional format used in Form 3 recorded a much lower non-response rate as compared to the imputation rate for this question in the 1991 Census. The re-ordering of response categories (as found on Form 4) resulted in a marginally higher non-response rate as compared to Form 3. Although this difference is not statistically significant, one would expect the placement of the question on Form 4 (six pages into the form as compared to page two on Form 3) would result in a higher non-response rate, as generally non-response rates will increase in relation to the distance a question is from the front page.

Table 26.1 shows that the response distributions are similar for Form 3, Form 4 and the 1991 Census.

**TABLE 26.1: MARITAL STATUS, AUGUST 1993 TEST AND 1991 CENSUS**  
**(excludes persons under 15 years)**

<i>Marital Status</i>	<i>Form 3</i>		<i>Form 4</i>		<i>1991 Census<sup>(a)</sup></i>	
	<i>Number</i>	<i>%</i>	<i>Number</i>	<i>%</i>	<i>Number</i>	<i>%</i>
Never married	624	31.0	591	29.7	1,444	30.9
Married	1,192	59.1	1,161	58.4	2,727	58.3
Separated but not divorced	32	1.6	56	2.8	101	2.2
Divorced	71	3.5	93	4.7	182	3.9
Widowed	97	4.8	86	4.3	224	4.8
<b>Total</b>	<b>2,016</b>	<b>100.0</b>	<b>1,987</b>	<b>100.0</b>	<b>4,678</b>	<b>100.0</b>

(a) 1991 Census data for test CD's.

For both 'Separated but not divorced' and 'Divorced' categories, Form 4 recorded a higher proportion of responses than Form 3, indicating that the new order of responses is having the desired effect of identifying those respondents who are separated or divorced and who may incorrectly mark married.

### 26.3 Changes Made

The new order of response categories was incorporated on the 1996 Census form. This was due to the change identifying respondents who are separated or divorced who may incorrectly mark 'married' in the previous response category order, and also a preference for using the ABS standard.

## 27. METHOD OF TRAVEL TO WORK

### 1991 Census Question

- 39 How did the person get to work on Tuesday, 6 August 1991?
- ( ) Train  
( ) Bus  
( ) Ferry or Tram  
( ) Car - as driver  
( ) Car - as passenger  
( ) Motorbike or motor scooter  
( ) Bicycle  
( ) Walked only  
( ) Worked at home  
( ) Other
- If the person uses more than one method of travel to work, mark all relevant boxes.
- ( ) Taxi  
( ) Did not go to work

### 27.1 Background

Changing the position on the page and modifying slightly the layout of the response categories was trialed for the Method of Travel to Work question in the March 1994 test. Question design for both form types was almost identical, except that there was no space between the last two response categories on Form 7, unlike Form 6 and the 1991 Census form. This was aimed at conserving space on the form, but it was thought necessary to test for possible effects on data quality.

Method of Travel to Work was the last of the questions relating to employment on Form 6, appearing at the top of the second last page, but was in a less prominent position on Form 7 (i.e. second from the top of the page). The revised order of the questions dealing with employment on Form 7 had Looked for Work and Availability to Start Work last instead of near the front, followed by Income. Method of Travel to Work was third last of all the questions relating to employment on Form 7.

### 27.2 Test Results

TABLE 27.1: FREQUENCY OF METHOD OF TRAVEL TO WORK BY FORM TYPE<sup>(a)</sup>

Method of Travel to Work	Form 6		Form 7	
	Number	Percent	Number	Percent
Train	8	1.5	7	1.3
Bus	15	2.8	19	3.6
Ferry or tram	—	—	—	—
Taxi	3	0.6	4	0.8
Car - as driver	235	43.2	240	45.8
Car - as passenger	21	3.9	31	5.9
Motorbike or scooter	3	0.6	11	2.1
Bike	15	2.8	15	2.9
Walked only	20	3.7	21	4.0
Worked at home	6	1.1	10	1.9
Other	4	0.7	4	0.8
Did not go to work	108	19.9	95	18.1
Not stated	106	19.5	67	12.8
<b>Total</b>	<b>544</b>	<b>100.0</b>	<b>524</b>	<b>100.0</b>

(a) Excludes those aged less than 15 years and responses of 'other unpaid work' or 'did not have a job' or 'not stated' to Full/part-time job.

As Table 27.1 shows, response distributions were similar for both form types. However, the significant difference in non-response rates between the form types (19.5% for Form 6 and 12.8% for Form 7) is puzzling because the 1991 Census-style question was at the top of a page on Form 6, and previous testing has shown that response rates to questions are higher when questions are in that position. The change in format for Form 6 from across to down the page for the dwelling questions may have confused some respondents and caused them to skip the Method of Travel to Work question. The banner used at the top of the dwelling questions (i.e. directly below Method of Travel to Work) may have also drawn attention away from the question.

To determine whether the non-response rate was affected by a change in the underlying rate of participation in the workforce, responses to Method of Travel to Work were cross-tabulated with responses to the Full/Part-time Job question. Analysis of results show that of those who responded they 'did not go to work', a comparable 47.4% of these respondents on Form 6 and 45.3% on Form 7 marked 'did not have a job' for the Full/Part-time Work question. Accordingly, the difference in non-response rates for the two form types does not appear to be related to differences in the rate of workforce participation.

The new order of employment-related questions on Form 7 brought about markedly better response rates for nearly all of these questions. It appears as though fewer respondents were confused, misled or otherwise influenced to overlook answering the questions.

### 27.3 Changes Made For The 1996 Census

The space between the last two response categories was removed for the 1996 Census form, although it was not possible to determine if this change affected responses to the question. The revised order of the employment-related questions on Form 7 had a positive effect on responses to all of those questions, including Method of Travel to Work, and so this order was incorporated in the 1996 Census form.

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.....  
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- ( ) **Husband or wife of Person 1**
- ( ) **De facto partner of Person 1**
- ( ) **Child of Person 1**
- ( ) **Stepchild of Person 1**
- ( ) **Brother or sister of Person 1**
- ( ) **Unrelated flatmate or co-tenant of Person 1**
- ( ) **Other relationship to Person 1 – please specify**

**An additional relationship question was tested in March 1994, in an attempt to improve family coding. A variety of question designs were suggested by Classification and Standards Section, and the question format chosen was tested in focus group studies prior to testing in March 1994.**

- ( ) **Husband or wife of Person 1** >Go to 7
- ( ) De facto partner of Person 1 >Go to 7
- ( ) **Child of Person 1** >Go to 7
- ( ) **Stepchild of Person 1** >Go to 7
- ( ) **Brother or sister of Person 1** >Go to 7
- ( ) **Other relationship to Person 1 - please specify** >Go to 7
- ( ) **Unrelated flatmate or co-tenant of Person 1** >Go to 6

### Relationship

Non-response for marital status, which was the question immediately following the relationship questions, for Form 7 was almost double that of Form 6. As mentioned previously, non-response for the first relationship question on Form 7 was also higher than for Form 6, and provides evidence that the additional relationship question adversely affected response rates for these two questions.

Telephone follow-up found that people were becoming confused by the additional relationship question, especially when the unrelated person responding as 'Unrelated (to Person 1)' was not related to anyone in the household.

Although the additional question provided the requested information in one case in the test, this was outweighed by the considerable confusion the question created for other respondents.

### **28.3 Changes Made For The 1996 Census**

The coding system was changed to accommodate same-sex couple, without changing the form design.

The second relationship question was not included in the Census 1996 questionnaire, as it had a detrimental effect on non-response for the questions immediately preceding and following it and it did not have any demonstrated benefit to family coding. However, a second question was included in the Special Indigenous Form.

### **28.4 Future Evaluation**

The effectiveness of the second question which was included in the Special Indigenous Form needed more analysis and has to be retested again in 2001 for further evaluation.

The quality of family data and the extent of the need for additional information in coding will be evaluated for the 1996 Census.



## 29. RELATIONSHIP IN NON-PRIVATE DWELLINGS

1991 Census Question (relevant section of this question on the Personal Form only)

### 5 Relationship:

- For a person staying in accommodation such as a  
**hotel, motel, hospital, college or guest house on the night  
of 6 August 1991, mark whether:**
  - ☐ Hotel guest, patient, boarder etc. Now go to 6
  - ☐ Staff member, owner or family of staff member or owner. Now go to 6

### 29.1 Background

In 1991, people who spent Census night in Non-Private Dwellings completed a Personal Form. Analysis of data from the Relationship question on Personal forms for Non-Private Dwellings showed that it was of poor quality.

The working paper 1991 Census Data Quality: Housing, states that 'The data on Relationship in Non-Private Dwellings appears to contain a number of data quality problems, in particular, a high non-response rate and a surprisingly high proportion of people giving responses of 'Staff member, owner or family of staff member or owner' (page 49). This is evident from the table below, where more than 20% of those staying in staff quarters, residential colleges and convents reported that they were staff. There were also significant differences between States and Territories, where staff as a proportion of all those in Non-Private Dwellings ranged from 25% in Western Australia to 51.8% in the Australian Capital Territory.

**TABLE 29.1: RESPONDENTS MARKING 'STAFF' IN NON-PRIVATE DWELLINGS FOR THE  
RELATIONSHIP QUESTION, 1991 CENSUS  
(percent)**

<i>Non-Private Dwelling Type</i>	<i>Staff as a % of total</i>
Hotels, motels	11.0
Staff quarters	31.3
Boarding houses, etc.	12.2
Boarding schools	12.2
Residential colleges, etc.	20.5
Public, private and psychiatric hospitals	16.6
Hostels for the disabled	19.7
Nursing homes	12.6
Homes for the aged	13.5
Hostels for the homeless, etc.	18.9
Childcare institutions	13.6
Corrective institutions for children	17.7
Other welfare institutions	10.1
Prisons, etc. for adults	6.3
Convents, etc.	29.1
Other and not classifiable	14.8
<b>Total</b>	<b>15.0</b>

## 29.2 Test Results

*Forms 9 and 10 (Personal Forms only)*

### 5 Relationship:

- For a person staying in accommodation such as an **hotel, hostel, hospital, staff or student quarters, prison etc. on the night of 23 August 1994, mark whether:**

#### Persons employed in accommodation

- ☐ Owner, proprietor
- ☐ Staff (eg porter, cook, teacher, warden etc)
- ☐ Family of owner or staff

#### Residents in accommodation

- ☐ Guest
- ☐ Patient
- ☐ Inmate
- ☐ Resident
- ☐ Other

- For a person staying in a private dwelling on the night of 23 August 1994, mark how he or she is related to Person 1 (as shown on the Household Form).

- ☐ Husband or wife of Person 1
- ☐ De facto partner of Person 1
- ☐ Child of Person 1
- ☐ Stepchild of Person 1
- ☐ Brother or sister of Person 1
- ☐ Unrelated flatmate or co-tenant of Person 1
- ☐ Other relationship to Person 1 - please specify

The new format was an attempt to try and improve on the quality of the 1991 Census data, especially for staff quarters. The design shown above was included on both form types for the August 1994 test, and test results and 1991 Census data from the question are included in the table below.

**TABLE 29.2: RELATIONSHIP IN NON-PRIVATE DWELLINGS, AUGUST 1994 TEST<sup>(a)</sup> AND 1991 CENSUS (TEST CD'S)**

<i>Relationship</i>		<i>Form 9</i>		<i>Form 10</i>		<i>1991 Census</i>	
		<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>
Owner, manager, employee and family	3	3.0	3	2.8	43	10.9	
Inmates, patients, boarders, etc.		98	97.0	99	92.5	331	83.6
Not stated		—	—	5	4.7	22	5.6
<b>Total</b>		<b>101</b>	<b>100.0</b>	<b>107</b>	<b>100.0</b>	<b>396</b>	<b>100.0</b>

(a) This data is from the data capture stage and does not include dummy records. No edits have been performed on this data.

Most respondents in Non-Private Dwellings were inmates, patients, boarders, etc. as can be seen from Table 29.2. No staff quarters were enumerated in the August 1994 test but other NPD's were included such as hotels/motels, boarding houses, homes for the aged and convents/monasteries, and results suggest that the new design reduced the number of people responding they were staff, while also improving the responses for the patients/guests category.

### **29.3 Changes Made For The 1996 Census**

The instruction was altered slightly to include examples of those Non-Private Dwellings which had high numbers of people responding they were staff in 1991. Rather than just two categories being offered, respondents now have a choice of eight categories, which are listed for Forms 9 and 10 in the Test Results section.

It should be noted that these detailed categories are included simply to improve the accuracy of responses and that data will be output using two categories similar to those used in the 1991 Census.

### **29.4 Future Evaluation**

As only small numbers of respondents were involved in testing for this question, further monitoring of data quality is needed from 1996 Census results. Further development of this question design may be necessary for the 2001 Census form.

## 30. SPECIAL INDIGENOUS FORMS

### 30.1 Background

Only one type of indigenous form was used in the 1986 Census, which was a variation of the standard Household form known as the Remote Area Interview Form (RAIF). It was designed for completion by interview. On the cover was a Household list and dwelling questions, and inside was space for up to six people to be included.

Similar forms were used in the 1991 Census. The 1991 Community List was used to record every dwelling (or interview location) in the community, which was identified by 'family name'. Personal and Household forms were used, and each Household form had a Household List on the front page and dwelling questions on the back. Restrictions were placed on form design due to the standard OMR decoding system adopted, so that questions that were not asked still had to be included on the interview form. Similarly, response formats of questions were required to be the same as those on the standard questionnaires.

The Community List, Special Indigenous Household Form and Special Indigenous Personal Form were tested in the skirmish held in the Aboriginal community of Yarrabah near Cairns in North Queensland in March 1995. These forms are part of the Indigenous Enumeration Strategy for the 1996 Census and are used only in discrete indigenous communities. Indigenous Interviewers obtain the necessary information from everyone in these communities by means of interviews. Outside these communities, indigenous enumeration is by means of standard (self-enumerated) forms.

The 1996 forms are referred to as Special Indigenous Forms (SIF's) rather than Remote Area Forms. There were no processing restrictions placed on form design this time, other than those imposed by an OMR layout.

### 30.2 Test Results

Because this test was a small skirmish, qualitative analysis was employed to test the performance of the forms, such as observation studies, feedback from Indigenous Interviewers and comments from the indigenous consultant.

The 1991 forms were completely redesigned for the skirmish and simpler language was used, to make them easier to use as interview forms and to better reflect indigenous culture. The aim of these changes was to improve responses and enumeration.

The skirmish found that the redesigned forms worked well. In particular, the question wording changes proved to be very effective. Only minor improvements were needed for the final 1996 form design as a result of the feedback gained from the skirmish.

### 30.3 Changes Made For The 1996 Census

#### 30.3.1 Community List

The List is similar to that used in 1991. A new column, 'Description of Place', is included, after it was recognised that 'family name' might not be a unique identifier for each dwelling.

### 30.3.2 Household Form

This is also similar to the 1991 version, but the column 'Personal form needed?' (which was very poorly completed in 1991) will be replaced by two columns: 'Visitor?' and 'Counted somewhere else?'.

No instruction is included on the form as to who should be interviewed but this will be addressed in training and in the documentation provided.

#### *Dwelling questions*

The changes between 1991 and 1996 generally reflect the question changes on the standard form, and alterations to the wording should make the forms easier to be understood by indigenous people. The 'Improvised dwelling' response category has been expanded to include caravans and humpies.

### 30.3.3 Personal Form

The questions are again in an OMR-readable format and suitable for interview although 'this person' as used in 1991 has been changed to 'you'. Some of the other main changes from 1991 follow.

**Relationship:** an extra question, 'Are you more closely related to anyone else here in this house?' has been included to aid family coding.

**Usual Address:** wording has been changed to refer to 'this place'.

**Aboriginal/Torres Strait Islander Origin:** is not pre-marked and provides for people who are of Aboriginal and Torres Strait Islander origin to be separately identified.

**Birthplace, Year of Arrival, and Citizenship** are not asked, as responses are assumed to be Australia/Not Applicable/Australian.

**Birthplace of parents:** will be asked.

**Language lists:** as Aboriginal languages will be coded in detail for the first time, new procedures will be introduced to ensure the accurate recording of responses. Interviewers should be supplied with a list of languages spoken in the community and should use the spellings specified on this list to record responses. This should ensure consistent and codable recording of languages.

**Religion:** Traditional Beliefs are included in the list of response categories (and Greek Orthodox is excluded from the OMR list but an 'Other' category is available).

**Type of Educational Institution:** University and TAFE is included in the OMR list.

**Qualification:** the wording has been changed and a new question introduced to exclude qualifications of less than six months (for coding purposes only).

**Income:** the top categories are again combined.

**Full/Part-time Job:** a CDEP category has been included to improve coding and to direct people on CDEP to skip Job Last Week.

**Job Last Week:** two extra questions have been added. The first determines whether the person is an employee or self-employed, and then asks if the self-employed respondent had anyone working for them.

**Looked For Work:** people who have a job will not be asked this question, which is not needed to code their Labour Force status. This will simplify the interview, because on the standard forms which are completed by self-enumeration, people with a job are asked to answer Looked For Work, in order to simplify sequencing instructions, but the data supplied by the respondent is not used.

## 30.4 Future Evaluation

The Special Indigenous Forms will be evaluated in terms of the quality of the data obtained from them. The evaluation will help determine whether changes to the design of some of the questions will be needed for the next census. Another factor which will be investigated is the suitability of OCR for the 2001 SIF's.

## 31. USUAL ADDRESS QUESTIONS

### 1991 Census Question (Five Years Ago Example)

#### 31.1 Background

The usual address topic on the census form consists of three questions:

- the household's usual address at Census time,
- usual address of the respondent one year ago, and
- the respondent's address five years ago.

The 1991 version of the last question is shown above. On the 1991 Census form, State or Territory of each person's address; State/Territory of the respondent's address one year ago, and usual address five years ago were asked.

A number of changes to the usual address questions were trialed during the 1996 Census testing cycle. In the March 1993 test, the effectiveness of the new 'Same as Person 1' category for Persons 2-6 for the usual address and usual address one year ago questions were analysed. The aim of this change was to reduce the respondent load by reducing the amount of writing required for Persons 2 to 6 in households where Person 1 provided a written address which was different to the address on the front of the form. These people would have had to provide a written address on the 1991 Census form.

The format for State of Usual Address Five Years Ago was altered by changing the wording, adding a new category 'Same as in question 6' and using a double column response area in the August 1993 test. Initially only State of Usual Address Five Years Ago was planned to be collected, but after 1996 Census user submissions were received, calling for full address information for internal migration purposes, full address details were collected for Usual Residence Five Years Ago and this was tested in March 1994.

An instruction for those with no usual address was added to all of the usual address questions and its effect on responses evaluated in the August 1994 test.

## 31.2 Test Results

### 31.2.1 Same as Person 1 category

Forms 1 & 2 (Persons 2-6)

#### 8 What is the person's usual address?

- 'Usual' address is that address at which the person has lived or intends to live for a total of 6 months or more in 1993.
- For persons who now have no usual address, regard this dwelling as their usual address.
- For boarders at boarding school or college, give address of school or college.

( ) Same as for Person 1

( ) Overseas

( ) Elsewhere – please specify address

Street number and name

Suburb, rural locality or town

Postcode

Forms 1 and 2 included the new category. Its effectiveness was examined by comparing the number of times this category was marked with the number of occasions respondents wrote in an answer.

**TABLE 31.1 RESPONSES FOR PERSON 2 TO PERSON 6 BY USUAL ADDRESS AND USUAL ADDRESS ONE YEAR AGO, MARCH 1993 TEST**

<i>Persons 2-6</i>	<i>Usual address</i>		<i>Usual address one year ago</i>	
	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>
Same as for Person 1	957	94.6	877	89.1
Overseas	8	0.8	12	1.2
Different address to front of form	25	2.5	83	8.4
Same address as front of form	22	2.2	12	1.2
<b>Total</b>	<b>1012</b>	<b>100.0</b>	<b>984</b>	<b>100.0</b>

As expected, the above table indicates that the majority of Persons 2 to 6 marked the 'Same as for Person 1' category. It could be presumed especially for the usual address question, that persons who are related family members (ie spouse, child), will have an address which is the same as that of Person 1.

The combined non-response rate to the usual address and usual address one year ago questions was very favourable and was lower than for that obtained in the July 92 test (3.2% for the March 1993 test and 7.1% for the July 1992 OMR test).

### 31.2.2 State of Usual Residence Five Years Ago

Form 3

Form 4

Modifications to the wording of State of Usual Residence Five Years Ago, as shown above, included a new category 'Same as in question 6' and a double column response area, and these were tested in Melbourne in August 1993.

Comparisons were made for response distributions for the control (Form 3) and experimental (Form 4) test forms and 1991 Census data. Although distributions were broadly similar for both test forms, as 92.3% of respondents to the 1991 Census-style question and 90.7% of respondents who answered the new question lived in Victoria five years ago, this difference was statistically significant. (1991 Census data showed that 88.8% of respondents in the test collection districts lived in Victoria five years ago.)

Sixty-three percent of respondents to the new State of Usual Residence question indicated their address was 'Same as in Question 6' compared to 58.6% of 1991 Census respondents. The 1991 Census-style question on Form 3 did not include this response category.

Attempts were made to evaluate the effect of the double column response categories in the new design by comparing non-response rates and distributions for each form type and 1991 Census data for Victoria. This information is shown in the table below. However, no conclusive results were obtained from the data.

**TABLE 31.2: STATE OF USUAL RESIDENCE FIVE YEARS AGO  
BY FORM TYPE AND 1991 CENSUS<sup>(a)</sup>**  
(percent)

<i>State</i>	<i>Form 3</i>	<i>Form 4</i>	<i>1991 Census<sup>(b)</sup></i>
Vic	92.3	27.5	30.2
Same address	n.a.	63.2 <sup>(c)</sup>	58.6
<i>subtotal</i>	92.3	90.7	88.8
NSW	1.1	0.9	0.7
Qld	0.2	0.1	0.4
SA	0.5	0.1	0.3
WA	0.3	0.5	0.2
Tas	0.1	0.3	0.1
NT	—	—	0.1
ACT	0.3	0.1	0.3
Elsewhere	4.0	4.7	5.2
Not stated	1.3	2.7	4.0
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

n.a. Not applicable.

(a) Excludes those less than five years old.

(b) 1991 Census data for test CDs.

(c) Those who marked 'Same as question 6'.

Although the non-response rate was highest for 1991 Census data, the new question design on Form 4 had a rate which was greater than the old design on Form 3. The higher rate for the new design may have been due to the double column response format, rather than the changed question wording, as another trial question on the form which also had a double column response format had a much higher non-response rate than the corresponding 1991 Census-style question.

### 31.2.3 Full address for Usual Residence Five Years Ago

Although only the State where respondents lived five years previously was collected in the 1991 Census, for the March 1994 test, full address details of respondents' addresses five years ago were asked for. Close to identical questions were asked on both test form types, although the new question layout on Form 7 excluded one of the instructions used on the 1991 Census form: 'For persons who had no usual address on 22 March 1989, give the address at which they were then living'.

Changing from a design used in the 1993 tests where respondents simply OMR-marked their answers for State details to one where they must provide a detailed write-in response for their full address was expected to have a noticeable effect on response. In the 1993 tests, non-response ranged from 1.3% to 2.7%, and it increased to between 2.9% and 3.2% for this test, depending on which form type is considered. Although the rate increased for the new question format, it is still very low when compared to non-response for most other questions.

**TABLE 31.3: DISTRIBUTION OF RESPONSES FOR USUAL ADDRESS  
FIVE YEARS AGO QUESTION  
(excluding persons aged under five years)**

<i>Usual address response</i>	<i>Form 6 Percent</i>	<i>Form 7 Percent</i>
Not stated	3.2	2.9
Same as Question 7 (F6) or Question 8 (F7)	28.7	31.3
Same as Person 1	32.9	30.2
Other country	2.5	2.5
Elsewhere box marked only	9.6	10.9
Elsewhere box marked and address written in (same as front of form)	0.1	—
Elsewhere box marked and address written in (different to front of form)	13.1	
Elsewhere box not marked but address written in (same as front of form)	0.1	0.5
Elsewhere box not marked but address written in (different to front of form)	8.7	8.7
<b>Total</b>	<b>100.0</b>	<b>100.0</b>

As expected with almost identical questions, the distribution of responses and rate of non-response for both was similar, and this information is contained in Table 31.3 above.

The addition of the two new response categories 'Same as Question 7/8' and 'Same as Person 1' meant that more than 60% of respondents were able to mark one of these responses rather than having to write a full address (i.e. respondent burden was reduced). Providing these two new categories appears to have minimised the effect of the question change on non-response.

### 31.2.4 Instruction for the Homeless

An additional instruction was trialed for all the usual address questions in the August 1994 test, in an attempt to better identify homeless people staying in dwellings on Census night and to improve respondent understanding of the usual address instruction. The new question layout included the following instruction 'For persons who now have no usual address, write 'no usual address' '. This was different to the 1991 Census instruction 'For persons who now have no usual address, regard this dwelling as their usual address'.

In 1991, some respondents were coded as having 'no fixed address' although they were to write the address at which they were enumerated. In the test, those who wrote 'no fixed address' were coded accordingly.

The proportion of 'no fixed address' responses was fairly low for all the address questions for both test form types, as expected from reasonably affluent areas of Perth, with a total of 0.3% for Usual Address, 0.6% for Usual Address One Year Ago and 1.0% for Usual Address Five Years Ago. More people were recorded as having no fixed address in this test than in the 1991 Census.

Adding the instruction may not have been an effective method of counting homeless people, because analysis of age, student status and labour force status showed that about 75% of people coded as having no fixed address were probably not homeless. A greater proportion of respondents wrote 'no usual address' for the Usual Address Five Years Ago question. Possible reasons for this include the longer time frame and personal mobility during that period being interpreted as having 'no usual address' by the respondent.

The instruction did not appear to cause confusion for the general population, i.e. those with a 'permanent' address.

### 31.3 Changes Made

A number of alterations were made to the format of the 1996 Census usual address questions. The following minor changes, although not discussed in detail, were tested very early in the cycle and recommended for inclusion in the 1996 form. The second response category was altered from 'Elsewhere - please specify address' to the clearer 'Elsewhere in Australia - please specify address'. Headings above the address boxes were changed slightly, making them easier for respondents to understand, with 'number' spelt out above the first box, 'town' added to the 'suburb or rural locality' heading above the second box, and the last response box heading split into two boxes, one for 'State/Territory' and the other for 'Postcode'. 'Other country' was added as the last response category to cater for those who usually lived overseas, so that respondents who had their usual address in another country (i.e. short-term visitors) could mark a box rather than having to write their full address. Also, 'the person' instead of 'each person' was used in the wording.

The 'Same as for Person 1' response category will be used for the usual address, usual address one year ago and usual address five years ago questions. Testing showed it was used by a significant proportion of Persons 2 to 6 on the test forms, resulting in a reduction in respondent load as well as improving processing efficiency.

Because of user demand for more detailed internal migration data, full address was asked for Usual Address One Year Ago. 'Same as in question 7/8' and, for Persons 2 to 6, 'Same as for Person 1' were included as response categories at the request of Processing Section and reduced respondent burden in many instances. The instruction 'For persons who now have no usual address, write 'no usual address' was added to the Usual address at Census time question, to obtain information about the homeless, although it was not added to the other two address questions.

### 31.4 Future Evaluation

The 'no fixed address' responses to Usual Address Five Years Ago on the 1996 Census form will be monitored. The impact on data quality of the 'Same as ...' categories will also be evaluated.

## 32. USUAL RESIDENTS TEMPORARILY ABSENT

### 32.1 Background

A question about whether any of the usual residents of the household were temporarily absent (URTA) was the last question on the 1991 Census form. This question was moved to the front due to the space limitations of the Optical Character Recognition (OCR) design. The positioning of this question was examined in the July 1992 test and again in the March 1993 test. Cognitive studies undertaken in March 1992 had indicated that respondents could be confused with the URTA question being located in front.

The objective of the July 1992 test was to determine whether the change in position of URTA from the back of the form to the front would increase the incidence of respondents incorrectly completing this question. OCR and Optical Mark Recognition (OMR) forms were distributed to alternate households.

In the March 1993 test the placement of the Usual Residents Temporarily Absent questions at the back of the form, but before the dwelling questions, was examined. Forms 1 and 2 were used for this assessment, with Form 2 having the experimental question design and Form 1 being similar to the 1991 Census form.

### 32.2 Test Results

The planned method of evaluating the July 1992 test data could not be achieved and processing inconsistencies made some of the test data unreliable. Some participants misinterpreted the question and attempted to squeeze all of the members of their household onto the page, and then because they thought they had completed form, did not proceed any further. Clerical examination of the OCR forms used in this test suggested that these forms had similar problems which could significantly damage the data quality. It was therefore recommended in the test report that the question revert to its usual position at the back of the form.

In the March 1993 test, on Form 1, positioning the URTA question at the back of the form was trialed; in the 1991 census form it had been placed after the dwelling questions.

Form 1 had a lower non-response rate of 6.2% for URTA where there was no response to the URTA 'screening' question. This compares with 8.2% for Form 2, a difference of 2.0%. This difference was not statistically significant.

Total average non-response for all Dwelling questions was lower for Form 1 (2.1%) when compared to Form 2 (3.7%). The difference of 1.6% was statistically significant.

Thus the results indicated that placing the dwelling questions before the URTA question resulted in better data quality for both the URTA and Dwelling questions.

### 32.3 Changes Made For The 1996 Census

The URTA question will be placed in the same position on the 1996 form as it was on the 1991 Census form - after the dwelling questions at the back of the form, as testing showed that this position produced the best quality data for the URTA and dwelling questions.

### 33. YEAR OF ARRIVAL

#### 1991 Census Question

- 12 When did the person first arrive in Australia?
- |                          |             |
|--------------------------|-------------|
| <input type="checkbox"/> | Before 1971 |
| <input type="checkbox"/> | 1971-1975   |
| <input type="checkbox"/> | 1976-1980   |
| <input type="checkbox"/> | 1981-1985   |
| <input type="checkbox"/> | 1986-1987   |
| <input type="checkbox"/> | 1988-1989   |
| <input type="checkbox"/> | 1990-1991   |

#### 33.1 Background

As a result of the development by Classifications and Standards section of an interim standard for this topic, consideration was given to changing the concept from that used in the 1991 Census. This conceptual change aimed at measuring arrival data when permanent settlement was the arrival objective. This is distinct from the 1991 Census objective of measuring when arrival was for any reason (eg. temporarily visiting, student visa, etc.). The year of arrival question was tested in the March 1993, August 1993 and August 1994 tests.

#### 33.2 Test Results

##### 33.2.1 March 1993

In the March 1993 test the wording 'When did the person first arrive in Australia?' (Form 1) was tested against 'When did the person first arrive to settle permanently in Australia?' (Form 2).

The non-response rate was higher for Form 2 (6.0%) than for Form 1 (2.6%). Fourteen out of 234 applicable persons did not respond to Form 2 and 7 out of 267 applicable persons did not respond to the question on Form 1. Even though this result was statistically significant, due to the small sample size no conclusions were drawn and it was decided to re-test with a larger sample in August, preferably in areas with a high migrant population.

##### 33.2.2 August 1993

Form 4

- 10 When did the person first arrive in Australia?
- |                          |             |                          |      |
|--------------------------|-------------|--------------------------|------|
| <input type="checkbox"/> | Before 1981 | <input type="checkbox"/> | 1990 |
| <input type="checkbox"/> | 1981-1985   | <input type="checkbox"/> | 1991 |
| <input type="checkbox"/> | 1986-1988   | <input type="checkbox"/> | 1992 |
| <input type="checkbox"/> | 1989        | <input type="checkbox"/> | 1993 |

In the August 1993 test the two column approach shown in Form 4 was tested with the aim of saving space on the form.

The table below shows the difference in response and commission error among the two forms.

TABLE 33.1: NON-RESPONSE AND COMMISSION ERROR<sup>(a)</sup> TO THE YEAR OF ARRIVAL QUESTION, AUGUST 1993 TEST

	Form 3	Form 4	Difference
Non-response rate (%)	3.0	9.6	6.6%
Commission error (%)	1.3	2.5	1.2%

(a) Respondent answered to a question which should not be answered.

As the question wording and response categories were the same on both form types, it is assumed that the two-column approach was responsible for the significantly higher non-response rate for Form 4.

However, the distributions for each response category were fairly similar between the form types and there were no statistically significant differences for any of the categories.

##### 33.2.3 August 1994

Due to a change in ABS standards, question wording was again changed. The inclusion of an extra response category and the change in question wording was tested on Form 10.

Form 9

- 13 In what year did the person first arrive in Australia?
- ☐ Before 1981
  - ☐ 1981 - 1985
  - ☐ 1986 - 1988
  - ☐ 1989 - 1990
  - ☐ 1991
  - ☐ 1992
  - ☐ 1993
  - ☐ 1994

#### Form 10

- 13 In what year did the person first arrive in Australia to live here for one year or more?
- ☐ Before 1981
  - ☐ 1981 - 1985
  - ☐ 1986 - 1988
  - ☐ 1989 - 1990
  - ☐ 1991
  - ☐ 1992
  - ☐ 1993
  - ☐ 1994
  - ☐ Will be here less than one year

The non-response rate was significantly higher for Form 10 (10.3%) than Form 9 (7.5%). In effect, the change in question wording and the inclusion of an extra category made the question more complex for respondents, and therefore it is understandable that there would be a higher non-response rate. However, although non-response was higher on Form 10, the extra category could actually be improving the responses to the other categories.

Although the non-response rate for Form 10 was significantly higher than on Form 9, the overall response distributions were similar. When the categories '1994' and 'Will be here less than one year' were combined, the numbers and percentages were very similar.

### 33.3 Changes Made For The 1996 Census

Question wording was changed to 'In what year did the person first arrive in Australia to live here for one year or more?' bringing it in line with ABS standards. The extra response category 'Will be here less than one year' was included for the same reason. Testing did not show conclusive adverse non-response or changes in distributions for these changes.

### 33.4 Future Evaluation

1996 Census results will need to be monitored and if non-response is higher than in 1991 Census, data should be analysed further to identify reasons for higher non-response. Also the performance of 'Will be here less than one year' response category has to be evaluated particularly of the impact of having two definitions of usual residence (Question 7 & 13).

## 34. CONTACT AT DELIVERY

### 34.1 Background

Research into contact at delivery in respect of the 1991 Census was completed by the Evaluation group in December 1992. Some of the findings were

- the role of contact at delivery in promoting accurate OMR marking was found to be relatively minor.
- higher non-response rates were found when contact was made at delivery.
- a lack of education would make the Census form relatively difficult to complete.
- having met their collector, respondents are less likely to answer education and labour force questions.

Attempts were made to appraise these conclusions in the March 1993 Test.

### 34.2 Test Results

In the March 1993 Test, collectors were required to describe the type of person contacted in their Collector Record Book along with the date and time of delivery. The results are shown below.

Type of Person contacted at Delivery	Response (%)
Person 1	65.1
Age of Person 60 years or over	39.7
Females	61.4
Males	37.6
Overseas-born person	32.5
Person who had no qualification	50.7
Household born overseas	28.8

Analysis of question non-response for all households completing a test form revealed that question non-response was generally higher for households where contact was made at delivery. Of the 34 variables for which non-response rate was calculated, only three variables, Birthplace, Birthplace of Father and Religion had statistically significant differences between contact and non-contact at delivery. A further eighteen had a non-significant difference and thirteen had a lower non-response rate. Of these, Religion recorded the largest difference with those households not contacted at delivery having a 3.7% higher non-response rate than those contacted. Even though the differences between contact and non contact are not large, the apparently contradictory nature of the results may cause some concern.

### 34.3 Future Evaluation

One possible avenue to eliminate the contradiction in response is to concentrate on an educational and/or awareness campaign at the kind of people who are more likely to be contacted (eg. female and persons over 60 years).

## 35. FIVE PERSON HOUSEHOLD FORM

### 35.1 Background

In the July 1992 test it was evaluated whether there was an increase in underenumeration rates as a result of a five-person household form. This design resulted from space constraints on the OCR form. Both OMR and OCR forms were used for this test and the OCR form was a five-person household form, rather than a six-person form like that used in the 1991 Census and the OMR form used in the test.

### 35.2 Test Results

Statistical Support Division calculated the average occupancy rate for both OMR and OCR forms for dwellings which were occupied. The difference between the average occupancy rates was not statistically significant. However, their calculations showed that potentially 0.5% of all people living in six person dwellings may be missed if a five-person household form is used in the Census. This means that if a five-person form had been used in the 1991 Census, approximately 1000 people would not have been enumerated in Australia.

### 35.3 Changes Made For The 1996 Census

The decision was made to continue with an OMR format for 1996, so no changes will be made for the 1996 Census. A six-person OMR form will again be used.

### 35.4 Future Evaluation

However, if it seems necessary to drop below a six person household form this issue has to be evaluated for the 2001 Census.

## 36. FRONT PAGE LAYOUT

### 36.1 Background

An amended version of the front page of the form was tested in August 1993. A professional forms evaluation and design consultant engaged by contractors Frank Small and Associates suggested a number of changes to the front page layout, which were based on 'modern form design principles' and aimed to make it more easily understood by respondents. These changes included highlighting and separating from the rest of the front page the section on how to complete the form, using the first person tense, adding a pointing hand symbol to highlight the 'how to mark' instruction, and placing arrows beside all of the instructions. These changes to the front page were evaluated in cognitive testing, and a number of completed test forms were analysed to measure the effectiveness of the instruction on how to mark the form.

### 36.2 Test Results

Focus groups and cognitive studies were conducted by Frank Small and Associates to obtain information about whether the revised front page layout was effective, in terms of respondents reading (or scanning) the front page and understanding the instructions. The evaluation report from the company stated that '...the modern form design approach is effective.'

After the August 1993 test was conducted, the effectiveness of the 'how to mark' instruction on the front page was evaluated. This was done by checking 100 test forms (50 of each form type) to see when a response to a question on page two and/or three had been ticked instead of OMR-marked. The table below shows the number of times a response category for a question on those pages was ticked, and indicates that Form 4, with the new instruction on the front page, performed markedly better than Form 3, which incorporated the 1991 Census design.

**TABLE 36.1: NUMBER OF TIMES A QUESTION WAS TICKED ON PAGES 2 AND 3, BY FORM TYPE ,  
AUGUST 1993 TEST<sup>(a)</sup>**

	<i>Form 3</i>	<i>Form 4</i>
Page 2	23	3
<b>Page 3</b>	<b>5</b>	<b>—</b>

(a) Sample of 100 forms

### 36.3 Changes Made For The 1996 Census

The new instruction on the front page together with all the changes listed earlier in the Background were considered a success, and incorporated into the 1996 Census form design.

## 37. 'HOW TO MARK' INSTRUCTION

### 37.1 Background

In the 1991 Census many people ticked the answer instead of marking like this (—). Thus the 'how to mark' instruction was included at the top of every page and the effectiveness of this instruction was tested in the August 1993 test. In order to reduce the incidence of people ticking the form this instruction was positioned at the top of every left page on Form Type 4 to remind respondents how to correctly mark their answers and was compared with Form Type 3 which had the instruction only on the front page as was in the 1991 Census.

### 37.2 Test Results

#### *Form 4*

Mark one box for each person, like this (—).

All completed test forms were checked to determine whether people had correctly marked the response boxes. If six or more pages of the form had ticks instead of horizontal marks in the boxes, the form was deemed to be 'mainly ticked'. Form 4 had 5.4% of forms which were mainly ticked instead of being marked properly compared with Form 3 which had 9.7%. This difference is statistically significant.

Another test to determine the effectiveness of the instruction involved selecting 100 forms at random (50 of each form type) and checking the number of times a response to a question had been ticked on each page, for each form type. Form Type 4 performed considerably better.

### 37.3 Changes Made For The 1996 Census

It was decided to include the 'How to mark' instruction at the top of every page on the 1996 Census form.

### 37.4 Future Evaluation

Include this instruction in following Censuses unless a different type of marking system is to be used in the future.

## 38. OPTICAL CHARACTER RECOGNITION

### 38.1 Background

In July 1992 an Optical Character Recognition (OCR) form was tested. Because this was the first time such a format had been used in a Census test, it was considered important to determine the quality of responses obtained, to evaluate the reaction of respondents who filled in the OCR forms, and to measure respondent burden. Two form types were used in the test - an OMR form, similar to that used in the 1991 Census, and an OCR form.

There were two very obvious differences between OCR and OMR test forms: respondents had to write their answers to some of the questions in special response boxes instead of OMR-marking the relevant category, and the OCR form was in a landscape rather than portrait layout because this was the only way the column format could be fitted on the form. A non-column format was evaluated in cognitive testing by Frank Small and Associates, and found to be more difficult for respondents to understand and complete than a column format.

Because an OCR form had not been tested before, it was necessary to determine whether this format affected the quality and length of written responses, and whether it took longer for respondents to complete than an OMR form (i.e. added to respondent burden). The OCR form had more pages and required a greater amount of handwriting than the OMR form, so it was thought the form might take longer to complete because of these factors, but no information about this was available prior to the test.

Efforts were also made to measure respondent reaction to the OCR test form using a variety of methods. Refusal rates, the number of blank forms posted back, response rates and response patterns for both form types were analysed to determine if respondent reaction was positive or negative to the OCR form.

### 38.2 Test Results

#### 38.2.1 Data Capture Problems

Data capture problems were experienced in the July 1992 test. After manual extraction of information from Collector Record Books, it was discovered that the data recorded by Collectors (e.g. the number of occupied and unoccupied dwellings, refusals, mailbacks, etc.) for both OMR and OCR forms did not match that which had been captured during processing. Accordingly, the lack of reconciliation between the Record Books and the Interim Final Unit Record File (IFURF) considerably reduced the amount and quality of analysis possible.

One of the main reasons for the data capture difficulties was the low priority accorded test processing, which was added onto the end of 1991 Census Processing. Short-cuts were taken because of time and resource limitations, for example, Pre-capture Processing was incomplete and no Preliminary Processing was undertaken. Also, adapting the 1991 Census processing system to OCR led to inaccuracies in the data file, so that a number of objectives could not be properly investigated.

#### 38.2.2 Quality of Responses and Respondent Burden

The quality and length of written answers to the occupation, industry and qualification questions on the OCR form were unable to be measured accurately because of the large number of uncoded OCR responses. Two indications of the quality of responses were the rate of dump coding, which was marginally higher for OCR responses, and the rate of unresolved queries, which were also marginally higher for OCR. A further 7% of OCR responses were not coded because of processing problems, and these uncoded responses could conceivably have increased the rate of dump coding and unresolved queries.

The time taken to complete both form types was measured to determine whether the OCR form took longer, as this is one indication of respondent burden. The four permanent ABS officers who worked as Collectors on the test asked the householders they contacted at delivery to record, on the back page, the amount of time they took to complete the form. However, not all householders were contacted at delivery, and many of those who were asked to record the completion time forgot to do so, resulting in only 174 households recording this information. The average completion time for both forms was then calculated from this information. The OMR form required an average of 16.49 minutes to fill out, and the OCR form an average of 16.04 minutes, which was only 45 seconds less. However, the minuscule time difference and the small numbers in the sample mean that these results are not of much value.

Although the OCR form took (on average) no longer to complete than the OMR form, respondent perception of the amount of work required to fill out the form is considered an important indicator of respondent burden. Respondents might have believed that the OCR form required more effort because it had more pages.

### 38.2.3 Respondent Reaction

A variety of methods were used to evaluate respondent reaction to the OCR form, such as rates of refusal and the amount of non-response for specific questions.

Refusal rates, i.e. where householders declined to fill in a test form, were slightly higher for OCR at 11.3%, than for OMR, at 10.2%. Similar proportions of blank forms, which are disguised refusals, were mailed back for both form types.

An overall worsening of question non-response for the OCR form was apparent, as the average non-response rate for all questions was 7.4% for OCR and 6.4% for OMR. However, approximately two-thirds (17 out of 29) of person variables analysed had a higher non-response rate for the OMR form. Twelve of the questions on the OMR form had response boxes requiring people to print their answers, instead of marking the self-coding response categories on the OCR form. The non-response rate was higher for ten of these topics for the OCR form. (Appendix 3 lists non-response rates for all the person variables for both test form types.)

A number of questions were essentially unchanged from the OMR format, and in six of these 13 instances, OCR non-response rates were better than for the OMR form. Overall, however, non-response rates for person variables averaged one per cent higher on the OCR form.

Two issues were found to be influential in determining the performance of the different forms - the amount of self-coding on the form and the position of the questions on the page. The greater the number of self-coded questions on the form, the more likely respondents were to answer them. Many questions on the OMR form only needed the response categories marked, requiring less respondent effort than writing in an answer (as for the OCR form). Questions placed at the top of a page often had a higher response rate, as they were more obvious to respondents than those lower down the page.

Question non-response was higher for the OCR form than the 1991 Census-style form, but this was expected to be reduced by further development and testing of alternative OCR form layouts and question design later in the 1996 Census cycle. However, in December 1992 a decision was made by the First Assistant Statistician in Social and Labour Division to use an OMR format for the 1996 Census form. His reasons were that this would improve the timeliness of census output, lessen risks to data quality, improve the predictability of release dates and ensure that the output program met user needs.

## 38.3 Changes Made For The 1996 Census

The 1996 form remains in the OMR format.

## 38.4 Future Evaluation

Given continued advances in OCR and Imaging technology, an OCR format will again be tested for the 2001 Census. The first OCR form design test will be held in 1997.

## 39. OVER 15 YEARS INSTRUCTION

### 1991 Census Question

- 22 Is the age given for the person  
15 years or more?
- ( ) No, under 15 years. No more  
questions for this person  
( ) Yes, 15 years or more.  
Continue to next question

### 39.1 Background

This question/instruction is designed to stop those under 15 years of age from trying to answer questions on the second part of the form which are not applicable to them, e.g. income, industry and occupation.

Cognitive studies held around the time of the 1991 Census found that the over 15 years question confused many respondents, with some viewing the question as irrelevant and others unable to understand its purpose.

Results from the 1991 Census, later cognitive studies and early testing for the 1996 Census found that versions of the over 15 years instruction still caused confusion for respondents. A banner format with 'If the person is aged under 15 years, no more questions' was ineffective according to cognitive studies held early in 1993, and so the instruction 'Only continue for persons aged 15 years or more' in each column on Form 2 was trialed in March 1993.

### 39.2 Test Results

#### 39.2.1 Instruction in each column

*Form 2*

Only continue for persons  
aged 15 years or more

The new instruction in each column on Form 2 in the March 1993 test did not work as well as expected, because it was less effective than the 1991 Census-style question used on Form 1. More respondents correctly followed the Over 15 question format on Form 1 than the Over 15 instruction on Form 2. Form 2 recorded a higher average commission error rate than Form 1. This means that a greater proportion of Form 2 respondents, who were aged less than 15 years, continued answering questions after the instruction told them to stop. The average omission error rate was also higher for Form 2. This is because a higher proportion of Form 2 respondents aged 15 years or older did not continue answering the questions after the instruction, as they should have done. Not having a question number next to the instruction on Form 2 may have caused many respondents to overlook it. Accordingly, Form 2 respondents were not guided to the instruction through sequencing methods as they were on Form 1, causing greater proportions of respondents to continue answering when they should have stopped, or to stop answering when they should have continued to the end of the form.

Cognitive studies determined that although the new instruction was not wholly effective, it was preferable to the 1991 Census question.

### 39.2.2 Banner instruction

Form 4

## 22 Only continue for persons aged 15 years or more

The same instruction wording was used on Form 4 in the August 1993 test, but in a banner format across the whole page with a question number beside it.

**TABLE 39.1: COMMISSION ERROR RATES FOR THE OVER 15 INSTRUCTION**  
(percent)

	August 1993 test		March 1993 test (a)		1991 Census (b)
	Form 3	Form 4	Form 1	Form 2	
Age Left School	20.1	15.9	14.1	8.6	18.5
Qualification question	12.2	7.0	15.5	8.6	18.8
Income	19.3	19.1	9.9	15.5	13.1
Full/part-time job	19.1	29.7	11.3	14.7	18.5
<b>Average</b>	<b>17.7</b>	<b>17.9</b>	<b>12.7</b>	<b>11.8</b>	<b>17.2</b>

(a) March 1993 Census Test results for Adelaide.

(b) Preliminary 1991 Census results, NSW.

**TABLE 39.2: OMISSION ERROR RATES FOR THE OVER 15 INSTRUCTION**  
(percent)

	August 1993 test		March 1993 test (a)		1991 Census (b)
	Form 3	Form 4	Form 1	Form 2	
Age Left School	7.8	7.8	6.9	9.1	8.0
Qualification question	9.5	10.6	10.2	11.5	(c)
Income	11.1	17.4	9.1	7.9	9.4
Full/part-time job	7.3	6.9	5.6	8.1	(d)
<b>Average</b>	<b>8.9</b>	<b>10.7</b>	<b>7.9</b>	<b>9.2</b>	<b>8.7</b>

(a) March 1993 Census Test results for Adelaide.

(b) Preliminary 1991 Census results, Australia.

(d) Qualification question is used to derive Qualification level and field and its not stated rate was not calculated.

(e) Full/part-time job is used to derive Labour Force status and its not stated rate was not calculated.

As in the March 1993 test, the new banner instruction trialed on Form 4 resulted in higher average commission and omission error rates than for the 1991 Census question. Commission error was significantly greater for one variable on Form 4, Full/Part-time Job, and this increased the average overall rate for that form.

The question number preceding the instruction may have reduced slightly the average commission error rate, as it was only 0.2% higher than the traditional question in the August test, compared to 0.9% higher than the old question format in the March trial. If Full/Part-time Job is excluded from the analysis, the average commission error rate for the banner instruction is 3.2% lower than for the response area instruction tested in March 1993.

The banner instruction was trialed again in March 1994. The banner used on Form 7 was similar to the one used on Form 4 but it was not at the top of the page, so was in a less prominent position. A light-coloured screen was used to highlight the instruction.

The average commission error rates for the Age left school, Qualifications, Income and Full/Part-time Job questions was lower for Form 7 (14.9%) than for Form 6 (17.6%) or Form 4 (17.9%), but the reason for this is unknown.

Average omission error (or non-response) rates for the four questions were lower for the traditional question on Form 6 (7.6%) than Form 7 (10.0%) with Form 4 recording the highest rate of 10.7%. It should be remembered that other factors in addition to the over 15 years instruction affect non-response for those questions.

Ambiguous test results for the banner and the question methods used to sequence out people aged less than 15 years make it difficult to reach a conclusion about their performance. The banner attracts more attention, but is mis-read by some respondents, so that fewer people under 15 years continue answering questions after the banner, but more people 15 years and over stop answering the questions after the banner.

### 39.3 Changes Made For The 1996 Census

The over 15 question was changed to an instruction using a banner format with a light-coloured screen behind it to highlight it. A question number preceded it, as was the case on the 1991 Census form. The banner's position was altered from third question from the top of the page to first question on the page.

## APPENDIX 1: SUMMARY OF CENSUS TESTS

Test Date	Form Types	State	Location	No. of dwellings (approx.)
21 July 1992	OMR, OCR	Qld	Brisbane	5,000
30 March 1993	1, 2	SA	Adelaide	980.0
24 August 1993	3, 4	Vic	Melbourne	1,800
24 November 1993 <sup>(a)</sup>	5.0	Vic	Melbourne	1,600
22 March 1994	6, 7, 8	NSW	Newcastle	1,250
23 August 1994	9, 10	WA	Perth	11,700
26 March 1995 <sup>(b)</sup>	Special Indigenous Forms	Qld	Yarrabah	200.0
8 August 1995	Dress Rehearsal	NSW	Sydney, Bathurst, NT <sup>(c)</sup>	20,000

(a) Disability Test.

(b) Indigenous Skirmish.

(c) Indigenous Enumeration Strategy component.

## APPENDIX 2: TOPICS EVALUATED BY TEST

Topic	July 1992	Mar 1993	Aug 1993	Nov 1993	Mar 1994	Aug 1994
Age					*	*
Age left school		*	*		*	*
Ancestry			*			
Birthplace						*
Disability				*		
Dwelling questions						
Bedrooms					*	*
Furnished/Unfurnished					*	
Household Payments					*	*
Landlord			*			*
Tenure			*		*	*
Multi-Household Dwellings					*	*
Retirement Villages					*	*
Educational Institution					*	*
Educational Qualifications			*		*	*
Income	*	*	*		*	*
Issue		*	*		*	*
Labour Force questions						
Order Of Questions		*	*			*
Availability To Start Work		*	*		*	
Hours Worked		*				
Industry			*			
Job Last Week		*	*			*
Looked For Work					*	
Occupation			*		*	
Language					*	*
Marital Status			*			
Method Of Travel To Work					*	
Over 15 Instruction		*	*		*	
Relationship					*	
Relationship In Non-Private Dwellings						*
Usual Address		*	*		*	*
Usual Residents Temporarily Absent	*	*				
Year Of Arrival			*			*
Contact At Delivery		*				
Five Person Household Form	*					
How To Mark Instruction			*			
Optical Character Recognition	*					
Front Page Layout			*			

## APPENDIX 3: NON-RESPONSE RATES FOR TOPICS BY TEST

VARIABLE	OMR	OCR	F1	F2	F3	F4	F6	F7	F9	F10
Persons All Ages										
Age	3.5	5.1	0.9	0.7	1.4	0.8	0.3	0.3	—	—

Sex	—	—	1.1	0.7	1.2	0.7	n.a.	n.a.	—	—
Relationship	n.a.	n.a.	0.5	0.6	0.7	0.7	0.4	3.0	—	—
Marital Status	6.2	5.0	—	—	3.4	4.0	2.0	4.2	—	—
Issue <sup>(a)</sup>	—	—	5.0	7.9	—	8.2	—	9.9	—	5.7
Usual Address	3.2	6.1	1.2	1.2	1.8	2.0	0.7	0.8	—	—
Usual Address 1 Year Ago <sup>(b)</sup>	7.2	10.3	1.9	2.5	1.8	1.3	2.0	2.1	—	4.6
Usual Address 5 Years Ago <sup>(c)</sup>	7.4	7.5	1.3	1.4	1.3	2.7	3.2	2.9	6.5	7.5
Birthplace	5.1	7.7	1.0	1.3	0.6	2.3	1.0	2.8	1.7	2.7
Year Of Arrival	2.9	3.9	2.6	6.0	3.0	9.6	—	—	7.5	10.3
Aboriginal/Torres Strait Islander Origin	5.1	11.7	3.0	2.7	1.9	2.4	2.8	3.3	1.4	1.9
Birthplace Of Father	5.4	3.5	1.1	1.2	2.5	1.9	1.4	2.0	1.9	1.9
Birthplace Of Mother	4.5	4.1	1.1	1.3	1.6	2.2	—	—	1.3	1.6
Australian Citizenship	4.5	4.8	—	—	3.7	—	2.3	1.9	1.5	2.1
Religion (voluntary)	12.6	21.7	8.0	6.9	9.0	10.3	7.5	6.3	7.5	7.6
Language	4.5	4.9	0.9	0.8	1.6	2.2	2.0	2.8	2.4	2.6
Proficiency In English	1.9	0.8	1.2	2.7	1.5	3.8	4.7	5.7	11.7	13.5
Full/Part-Time Student	5.8	5.6	2.4	9.2	1.7	3.5	3.6	3.6	2.9	3.2
Type Of Educational Institution	3.8	2.9	1.0	6.4	4.1	2.4	16.1	17.6	13.4	13.6
Persons Aged 15 Years Or More										
Age Left School	10.8	12.1	6.9	9.1	7.8	7.8	6.9	10.5	6.6	5.9
Qualification (Indicator)	9.9	9.5	10.2	11.5	9.5	10.6	8.7	12.3	15.4	13.0
Qualification Level And Field	5.8	5.1	4.1	1.9	4.0	3.0	20.9	23.9	28.1	25.3
Qualification Year Obtained	6.7	10.0	5.4	4.6	6.5	6.1	22.9	25.4	23.8	25.7
Income	11.7	13.2	9.1	7.9	11.1	17.4	8.4	10.2	7.6	10.7
Full/Part-Time Job	7.4	9.5	5.6	8.1	7.3	6.9	5.5	6.3	6.0	4.3
Looked For Work	4.3	5.4	9.6	5.6	10.0	14.8	14.2	10.2	11.2	10.8
Job Last Week	5.4	5.7	4.7	2.2	5.5	4.7	21.4	15.5	11.0	9.3
Hours Worked	7.8	9.0	6.0	2.5	8.2	5.5	20.7	11.5	3.6	3.2
Occupation	7.9	7.7	5.7	0.6	6.0	2.0	22.5	12.2	9.2	7.7
Industry	9.7	10.2	9.6	5.2	14.6	7.7	27.2	17.4	12.8	10.8
Availability To Start Work	—	—	n.a.	2.2	n.a.	10.1	32.6	31.3	36.8	34.9
Method Of Travel To Work	6.6	4.8	—	—	—	—	19.5	18.1	—	—
Occupied Private Dwellings										
Number Of Bedrooms	n.a.	n.a.	1.0	3.4	1.8	1.6	6.6	4.7	3.1	3.7
Nature Of Occupancy	—	—	2.0	3.2	—	—	13.9	—	—	—
Landlord	n.a.	n.a.	2.5	1.2	3.1	1.3	3.3	0.4	27.4	22.6
Weekly Rent Payments	—	—	1.3	2.4	7.0	3.4	3.3	2.5	2.1	2.9
Furnished/Unfurnished	—	—	3.8	6.1	11.7	1.3	4.8	0.8	28.1	23.5
Tenure	—	—	—	—	2.5	2.5	11.2	9.6	5.9	6.0
Monthly Mortgage Payments	n.a.	n.a.	2.6	6.6	4.8	7.2	4.3	5.5	6.5	5.5

See over for footnotes.

n.a. Not available.

— Not collected.

(a) All females for the first two tests and only females over 15 years for the last two tests.

(b) State only for the OCR test.

(c) State only for the first three tests.